Copyright

GenCore (c) 1993

version - 2003

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ALIGNMENTS

A;Title: Peptide neurotoxins from fish-hunting cone snails.
A;Reference number: A43620; MUID:86070213; PMID:4071055
A;Reference number: A43620; MUID:86070213; PMID:4071055
A;Reference number: A43620; MUID:86070213; PMID:4071055
A;Reference number: Protein
A;Residues: 46-73 < CLI>
A;Residues: 46-73 < CLI>
A;Residues: 46-71 < CLI>
Biochemistry 23, 5087-5090, 1984
A;Title: Purification and sequence of a presynaptic peptide toxin from Conus geograph
A;Reference number: A01785; MUID:85072796; PMID:6509012
A;Accession: A01785
A;Molecule type: protein
A;Residues: 46-72 < CLI>
A;Accession: A01785
A;Molecule type: protein
A;Residues: 46-72 < CLI>
A;Residues: 46-72 < CLI>
A;Residues: 46-72 < CLI>
A;Residues: 46-72 < CLI>
A;Title: Synthesis and secondary-structure determination of omega-conotoxin GVIA: a 2)
A;Contents: annotation
A;Note: disulfide bonds determined and confirmed by chemical synthesis
R;Davis, J.H.; Bradley, E.K.; Miljanich, G.P.; Nadasdi, L.; Ramachandran, J.; Basus, submitted to the Brookhaven Protein Data Bank, April 1993
A;Basus, Submitted to the Brookhaven Protein Data Bank, April 1993 A; Reference nu A; Contents: an R; Davis, J.H.; Biochemistry 3 A; Title: Solut A; Residues: 1-73 <COL>
A; Cross-references: GB: M84612; NID: g156520; PIDN: AAA81590.1; A; Cross-references: venom duct
A; Experimental source: venom duct
A; Note: sequence extracted from NCBI backbone (NCBIN: 119531, R; Olivera, B.M.; Gray, W.R.; Zeikus, R.; McIntosh, J.M.; Var, Science 230, 1338-1343, 1985
Science 230, 1338-1343, 1985 omega-conotoxin GVIB precursor [validated] - cone shell (Conus geogra N; Alternate names: shaker peptide GVIB
N; Contains: omega-conotoxin GVIA; omega-conotoxin GVIC
C; Species: Conus geographus (geography cone)
C; Date: 25-Feb-1985 #sequence_revision 23-Mar-1995 #text_change 15-Se
C; Accession: A44006; A60133; B60133; A01785
R; Colledge, C.J.; Hunsperger, J.P.; Imperial, J.S.; Hillyard, D.R.
Toxicon 30, 1111-1116, 1992
A; Title: Precursor structure of omega-conotoxin GVIA determined from A; Rèference number: A44006; MUID:93069266; PMID:1440648
A; Accession: A44006
A; Molecule type: mRNA
A; Residues: 1-73 < COL> RESULT NTKN6G A; Reference A; Contents: disulfide bonds determined and confirmed by chemical synthem J.H.; Bradley, E.K.; Miljanich, G.P.; Nadasdi, L.; Ramachal to the Brookhaven Protein Data Bank, April 1993 ance number: A51894; PDB:10MC ls: annotation; conformation by (1)H-NMR, residues 46-72 J.H.; Bradley, E.K.; Miljanich, G.P.; Nadasdi, L.; Ramachal stry 32, 7396-7405, 1993 Solution structure of omega-conotoxin GVIA using 2-D NMR since number: A58536; MUID:93332945; PMID:8338837 ls: annotation; conformation by (1)H-NMR py. P.K.; Duggan, B.M.; Pennington, M.W.; Norton, R.S. 6 .K.; Duggan, B. the Brookhaven Protein Data Bank, August 1993 Varga, 2-D NMR spectroscopy and re Ramachandran, NCBIP:119532) PID:g1070393 geographus) J.; 15-Sep-2000 Rivier, D cDNA clone. ت ; J.; de Sa

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neurotoxin.
C; Superfamily: omega-conotoxin
C; Keywords: acetylcholine release inhibition; amidated cark
F; 1-22/Domain: signal sequence #status predicted <SIG>
F; 23-45/Domain: propeptide #status predicted <PRO>
F; 46-73/Product: omega-conotoxin GVIB #status experimental
F; 46-72/Product: omega-conotoxin GVIC #status experimental
F; 46-71/Product: omega-conotoxin GVIC #status experimental
F; 46-61, 53-64, 60-71/Disulfide bonds: #status experimental
F; 49, 55, 66/Modified site: amidated carboxyl end (Tyr) (amide in n
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RESULT 3
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delta-conotoxin (
N; Alternate name)
C; Species: Conus
C; Date: 19-Mar-1
C; Accession: $12
R; Woodward, S.R.
EMBO J. 9, 1015-
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23-45/Domain: propeptide #status predicted <<br/>
46-74/Product: omega-conotoxin PuIIA #status pred<br/>
48-62,55-66,61-73/Disulfide bonds: #status
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3; Mismatches
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A; Title:
A; Referer
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A;Title: Mollusc-specific toxins from the venom of Conus A;Reference number: S19553; MUID:92104183; PMID:1761058
A;Accession: S19553
A;Molecule type: protein A;Residues: 52-78 <FAI>C;Superfamil:
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A;Title: A molluscivorous Conus toxin: conserved A;Reference number: A30103; MUID:89207553; PMID:2 A;Accession: A30103
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R; Woodward, S.
R; Woodward, S.
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C; Keywords: neurotoxin; sodium channel inhibitor; venom
F; 1-22/Domain: signal sequence #status predicted <SIG>
F; 23-51/Domain: propeptide #status predicted <PRO>
F; 52-78/Product: delta-conotoxin TxVIA #status experimental <MAT>
F; 53-68, 60-72, 67-77/Disulfide bonds: #status predicted
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C; Species: C
C; Date: 19-N
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                                                                                                                                                                                                                                                             A;Residues: 1-77 <WOO>
A;Cross-references: EMBL:X53284; NID:g10889;
C;Superfamily: omega-conotoxin
C;Keywords: neurotoxin; venom
                                                                                                                                                                                                                                                                                                                                                              R;Woodward, S.R.; Cruz, L.J.; Olivera, B.M.; Hillyard, D.R. EMBO J. 9, 1015-1020, 1990
A;Title: Constant and hypervariable regions in conotoxin propeptides A;Reference number: S12513; MUID:90214607; PMID:1691090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                conotoxin
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;52-77/Product:
;52-67,59-71,66-
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                                                             MKLTCMMIVAVLFLTAWTFATADDSSNGLENLFSKAHHEMKNPEASKLNKRCIEQFDPCE 60
                              RIAYNCCTGSC 65
                                                                                               MKLTCVVIVAVLLLTACQLITADDSRG--
                                                                                                                                                                                                                                                                                                                                                                                                                                Tx-KK1 precursor - cone shell (Conus textile)
e names: King-Kong peptide
  Conus textile (cloth-of-gold cone)
-Mar-1997 #sequence_revision 11-Apr-1997 #text_change
1: S12514
MIRHTCCVGVC
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                                                                                                                                                                                              : signal sequence #status predicted <SIG>
n: propeptide #status predicted <PRO>
ct: conotoxin Tx-KK1 #status predicted <MAT>
,66-76/Disulfide bonds: #status predicted
                                                                                                                                               Similarity
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                                                                                                                                35.7%; Solarity 39.4%; Proceed to the conservative 10;
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Pred. No. 3.4e-07;
2; Mismatches 24;
                                                                                                                                                                   Score
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                                                                                                                                 ed. No. 3.86
Mismatches
                                                                                                                               135; UD -.
NO. 3.8e-07;
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PMID:2706261
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                                                                                                  -TQKHRALRSDTKLSMSTRCKGTGKPCS 54
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                                                                                                                                                                                                                                                                                                        PIDN:CAA37378.1;
                                                                                                                                                                    Length 77;
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N; Alternate names: King Non-Species: Conus textile (cloth-of-gol C; Species: Conus textile (cloth-of-gol C; Date: 19-Mar-1997 #sequence_revision C; Accession: S12515  
R; Woodward, S.R.; Cruz, L.J.; Olivera, EMBO J. 9, 1015-1020, 1990  
A; Title: Constant and hypervariable represented in the cons
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A; Accession: S12515
A; Molecule type: mRNA
A; Residues: 1-77 <WOO>
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A; Residues:
C; Superfamil
C; Superfamil
C; Keywords:
F; 1-22/Domai
F; 23-51/Doma
F; 52-80/Prod
F; 54-69, 61-7
F; 57, 65/Modifie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Species: Conus purpurascens (purp
C; Date: 10-Sep-1999 #sequence_revis
R; Shon, K 7
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F;23-51/Domain: propeptide #status predicted <PRO>
F;52-77/Product: conotoxin Tx-KK2 #status predicted <MAT>
F;52-67,59-71,66-76/Disulfide bonds: #status predicted
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Biochemistry 34, 4913-4918, 1995
A;Title: Purification, characterization, s
A;Reference number: A58651; MUID:95226378;
A;Accession: A58651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: EMBL:X53285;
;Superfamily: omega-conotoxin;
Keywords: neurotoxin; venom
f;1-22/Domain: signal sequence #
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Best Loc
Matches
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54-69,61-73,68-78/Disulfide bonds: #status predicted
57,65/Modified site: 4-hydroxyproline (Pro) #sta
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Residues: 1-81 <SHO>
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Best Local
                                                                                                                                                                                            Matches
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eywords: amidated carboxyl end; hydroxyproline;
-22/Domain: signal sequence #status predicted <
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                                                                                         MKLTCVVIVAVLLLTACQLITADDSR-GTQKH-
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CGIKPGLCCSEFCLPGVC
                                              CSRIAYNCCTGSCRSGKC
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32; Conservative
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larity 38.0%;
Conservative
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41.0%;
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No. 3.4e-06; 32;
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No. 2e-06;
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A;Staruza;A;Molecule typa;Residues: 1-
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C; Species: Con
C; Date: 17-Apr
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C; Date: 17-Apr-1993 #se
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                              A; Molecule type: mRNA
A; Residues: 1-29 < HIL
                                                                                                         Neuron 9,
                                                                                                                            C; Accession: R; Hillyard, D
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         submitted to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R; Kohno,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Reference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R; Nielsen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Reference number:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Title: Neuronal calcium channel antagonists. Discrimination between A; Reference number: A34115; MUID: 87299637; PMID: 2441741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Olivera, B.
Biochemistry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule typ
A; Residues: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Science
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                                                                                                                                                                                                                                                                                                                                                                                                          ;Keywords: ac;1-16,8-20,15;25/Modified
                                                                                                                                                                                                                                                                                                                                                          Query
Best 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Title: Three-dimensional structure in solution of the calcium channel Reference number: A58627; MUID:95367555; PMID:7640281 Superfamily: omega-conotoxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contents:
Kohno, T.;
               Cross-refer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Reference
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Reference num
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Biol. 263, 29
                                                                                                                                                                                                                                                                                                                                                            Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    annotation; conformation by (1)H-NMR
Kim, J.I.; Kobayashi, K.; Kodera, Y.; Maeda,
the Brookhaven Protein Data Bank, April 1995
number: A66296; PDB:10MG
annotation; conformation by (1)H-NMR, residues
Kim, J.I.; Kobayashi, K.; Kodera, Y.; Maeda,
34, 10256-10265, 1995
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                                                                                                                                           or-1993 #sequence_revision 11-Apr-1997 #text_change 15-Sep-2000
JH0699; PC2380
ences: GB:S40826; N
Kubo, S.; Yoshida,
                                                                                                                                                                                                                                                                                                                                           Similarity 76.9; Conservative
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5-25/Disulfide bonds: #status
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umber: A43620; MUID:86070213; PMID:4071055
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1338-1343, 1985
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r-1993 #sequence_revision 17-Apr-1993
JH0700; C60133; A34115
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                                                                               conus peptide
ber: JH0699; 1
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2086-2090, 1987
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                                                                                                                             Monje,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10mas, L.; Lew
297-310, 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A58619; MUID:97070382; PMID:8913308
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                                                                                                                                                                                                                                                                                                                                                                                                      noline release inhibition; amidated carboxyl end; sulfide bonds: #status predicted amidated carboxyl end (Cys) #status experimental
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                                                                                                                             V.D.; Mintz, I.M.; Bean, B.P.; Nadasdi,
                                                                                                                                                                                                                                                                                                                                                           32.0%;
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                                                                             ligand for mammalian presynaptic Ca2+ channels MUID:92337922; PMID:1352986
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NID:g252126;
a, T.; Chino,
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    cone shell (Conus magus)

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                                                                                                                                                                                                                                                                                                                                            Mismatches 4
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Kodera, Y.; Maeda,
                                                                                                                                                                                                                                                                                                                                                                       121;
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pmID:1352986
PIDN:AAB22674.1;
N.; Kimura, T.;
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PID:g252127
Sakakibara,
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                                                                                                                                                                                             magus)
                                                                                                                              L.; Ramachandran,
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Kyogoku,
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A; Cross-references: GB:S69322; NID:g545399; PIL
A; Note: the predicted peptide was chemically sy
C; Superfamily: omega-conotoxin
C; Keywords: toxin; venom
F; 4-29/Product: omega-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Biochem.
A;Title:
A;Referer
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R; Farr-Jones, S.; Basus, V.J.
Submitted to the Brookhaven Protein Data Bank, Jecumes 3-2
A; Reference number: A66297; PDB:10MN
A; Reference number: A66297; PDB:10MN
R; Farr-Jones, S.; Miljanich, G.P.; Nadasdi, L.; Ramachandran,
R; Farr-Jones, G.; Miljanich, G.P.; Nadasdi, L.; Ramachandran,
R; Farr-Jones, G.; Miljanich, G.; Miljanich, G.; Miljanich, G.; Miljanich, G.; Miljanic
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A;Contents: annotation; conformation by (1)H-NMR
C;Superfamily: omega-conotoxin
C;Keywords: acetylcholine release inhibition; amidated cark
F;3-28/Product: omega-conotoxin MVIIC #status experimental
F;3-18,10-22,17-28/Disulfide bonds: #status experimental
F;28/Modified site: amidated carboxyl end (Cys) (amide in n
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A58537
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Reference number: A; Accession: A58537
                                                                                                                                                                                                                                             omega-conotoxin MVIIB - cone shell (Cor
C; Species: Conus magus (magus cone)
C; Date: 17-Apr-1993 #sequence_revision
C; Accession: JH0701; B34115
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                                                                                                                                                                           C; Accession: JHU/U1; Accession:
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Best Loc
Matches
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A;Status: nucleic
A;Molecule type: n
A;Residues: 1-25
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Solution structure of omega-conotoxin MVIIC determined on home of commun. 207, 695-700, 1995
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ilarity 58.6%;
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Pred. No. 2.6e
3; Mismatches
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PMID:1352986
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an, J.;
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A;Molecule type: protein
A;Residues: 1-25 <OLI>
C;Superfamily: omega-conotoxin
C;Keywords: acetylcholine release inhibition; amidated carboxyl end;
F;1-16,8-20,15-25/Disulfide bonds: #status predicted
F;25/Modified site: amidated carboxyl end (Cys) #status predicted
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A;Title: Neuronal calcium channel antagonists. Discrimination between calcium channel A;Reference number: A34115; MUID:87299637; PMID:2441741
A;Accession: B34115
                                                                                                                                           omega-conotoxin SVIB [validated N; Alternate names: SNX-183 C; Species: Conus striatus (stric; Date: 31-Dec-1993 #sequence_r C; Accession: C44379 R; Ramilo, C.A.; Zafaralla, G.C.
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C;Species: Conus pulicarius
C;Date: 05-Nov-1999 #sequence_revision 05-Nov-1999 #text_change 05-Nov-1999
C;Accession: A59135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R;Zhao, D.; Yao, J.; Dai, Q.; Huang, P. submitted to GenBank, March 1999
A;Reference number: A59135
A;Accession: A59135
A;Status: not compared with conceptual translation
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C;Superfamily: omega-conotoxin
C;Superfamily: omega-conotoxin
C;Keywords: neurotoxin; sodium channel inhibitor; venom
C;Keywords: neurotoxin; sodium channel inhibitor; venom
F;1-22/Domain: signal sequence #status predicted <PRO>
F;23-50/Domain: propeptide #status predicted
F;51-80/Product: delta-conotoxin PulA #status predicted
F;52-70,59-74,69-78/Disulfide bonds: #status predicted
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A; Residues: 1-80 < ZHA>
A; Cross-references: GB: AF132129;
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A; Experimental sourc
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; Zafaralla, G.C.; ....
31, 9919-9926, 1992
31 alpha- and omega-conotoxins
1 alpha- a44379; MUID:93003172;
                                                                                                                                                                                                                                                                                                                                                                                        TCVMIVAVLFLTAWTFVTADSIRALEDLFAKAPDEMENSGASPLNERDCRPVGQYCG
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submitted to the Brookhaven Protein Data Bank, August 1996 A; Reference number: A67649; PDB:1MVJ A; Contents: annotation; conformation by (1)H-NMR, residues 1 R; Nielsen, K.J.; Thomas, L.; Lewis, R.J.; Alewood, P.F.; Cray. Mol. Biol. 263, 297-310, 1996 A; Title: A consensus structure for omega-conotoxins with diff A; Reference number: A58619; MUID:97070382; PMID:8913308 A; Contents: annotation; conformation by (1)H-NMR C; Comment: This omega-conotoxin blocks presynaptic calcium c; Superfamily: omega-conotox
omega-conotoxin GVIIA - cone shell (Conus N; Alternate names: shaker peptide GVIIA C; Species: Conus geographus (geography con C; Date: 11-Dec-1992 #sequence_revision 11 C; Accession: A43620 R; Olivera, B.M.; Gray, W.R.; Zeikus, R.; 1 Science 230, 1338-1343, 1985 A; Title: Peptide neurotoxins from fish-hum
                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: DNA
A; Residues: 1-775 <WI2>
A; Cross-references: EMBL
A; Experimental source: cl
C; Genetics:
A; Gene: CESP: R06A4.7
A; Map position: 2
A; Introns: 223/1; 414/3;
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A43620
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Z19822
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vis, R.J.; Alewood, P.F.; Craik,
tein Data Bank, August 1996
                                                                                                                                                                                                                                                                                                                                                             10;
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A; Molecule typ
A; Residues: 1-
C; Superfamily:
C; Keywords: ac
F; 1-16, 8-19, 15
F; 4,7/Modified
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A; Residues: 1-29 <OLI>
C; Superfamily: omega-conotoxin
C; Keywords: acetylcholine release inhibition; calcium channel inhibitor; hydroxyprolif; 1-16, 8-19, 15-26/Disulfide bonds: #status predicted
F; 4, 7/Modified site: 4-hydroxyproline (Pro) #status experimental
                                                                                                                                                                                                                                                                                                         omega-conotoxin GVIIB - cone shell (Conus geographus)
N;Alternate names: shaker peptide GVIIB
C;Species: Conus geographus (geography cone)
C;Date: 11-Dec-1992 #sequence_revision 11-Dec-1992 #text_change 23-May-1997
C;Accession: B43620
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A; Title: Pep
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                                                                                                                                                                                                                                          Olivera, B.M.; Gray, W.R.; Zeikus, R.; McIntosh, J.M.; Va
zience 230, 1338-1343, 1985
Title: Peptide neurotoxins from fish-hunting cone snails.
Reference number: A43620; MUID:86070213; PMID:4071055
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-29 <OLI>
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A43620
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Pred. No. 1.8;
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                                                                                       SPTREMBL_21:*

1: sp_archea:*

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6: sp_mammal:*

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8: sp_organelle:*

9: sp_phage:*

10: sp_plant:*

11: sp_rodent:*

12: sp_virus:*

13: sp_vertebrate:*

14: sp_unclassified:*

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16: sp_bacteriap:*

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Submitted (AUG-1999) to the EMBL
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EMBL; AF174240; AAF89904.1; -.
HSSP; P05484; 1MVI.
InterPro; IPR004214; Conotoxin.
Pfam; PF02950; Conotoxin; 1.
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SEQUENCE 66 AA; 6966 MW; 29A
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Q9N6N6;
01-OCT-2000
01-OCT-2000
01-JUN-2002
                                                                                                            Duda T.F., Palumbi S.R.;
"Molecular evolution of four-
eating Conus.";
Submitted (AUG-1999) to the F
EMBL; AF174242; AAF89906.1;
HSSP; P05484; 1MVI.
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                                                                                                                                                                      SEQUENCE FROM N.A. STRAIN=CSTRH_1_3;
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NCBI_TaxID=6493;
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                                  sh 86.8%;
Similarity 93.9%;
62; Conservative
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                                                                                                       IPR004214;
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                                                                            AA;
                                                                                                                                                                                                             Conoidea;
                                                                                              Conotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AND
                                                                            7019 MW;
                                                                                                                                                                                                             Mollusca; Gas
dea; Conidae;
                                                                                                                                                                                                                                                                                                                                                                                                                   87.6%;
95.5%;
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                                                                                                         Conotoxin
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15,
21,
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15,
21,
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                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                 Created)
Last sequence update)
Last annotation update)
                                                                                                                                    EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                           Score 331; DB 5;
Pred. No. 2.5e-35;
Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                29A992710CA7DA05
                                       0
                                               Score
Pred.
                                                                            89B89B7AF1A7C7B3 CRC64;
                                                                                                                                                                                                              Gastropoda;
Mae; Conus.
                                                                                                                                                                                                                                                                                       PRT;
                                       ore 328; DE ed. No. 6.2e Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   conotoxin precursors
                                                                                                                                                                                                                                                                                                                                                                                                                          331;
                                                                                                                                                      conotoxin precursors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99
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                                               DB .
                                                                                                                                                                                                                       Caenogastropoda;
                              -35;
-35;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  CRC64;
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RESULT
Q9NCV2
ID Q5
AC Q5
DT Q5
DT 0
DT 0
DT 0
DE F
OC E
OC E
OC N
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RD
RT
DR
DR
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DR
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Q9NCV4
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Best Local S
Matches 62
Query
Best 1
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Q9NCV4;
01-OCT-200
01-OCT-200
01-JUN-200
                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPR00.
Pfam; PF02950; (
NON_TER 1
SEQUENCE 66 A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Four-loop
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Q9NCV2;
01-OCT-20
01-OCT-20
01-JUN-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           eating Conus."
Submitted (AUG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN=CSTRH_1_2;
Duda T.F., Palumbi S.R.;
"Molecular evolution of four-loop conotoxin"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxI
                                                                     eating Conus.
Submitted (AUCEMBL; AF17424;
HSSP; P05484;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Neogastro
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Eukaryota
Neogastro
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                             InterPro;
Pfam; PFC
NON_TER
SEQUENCE
                                                                                                                                                           NCBI.
                                                                                                                  SEQUENCE FROM N.A.
STRAIN=CSTRH_1_4;
Duda T.F., Palumbi S.R.;
"Molecular evolution of four-loop conotoxin precursors from
                                                                                                                                                                                                                 Four-loop
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; P05484; 1MVI.
; Pro; IPR004214; Conotoxin.
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                                                                                                                                                                                                                                                                                                                                          RSGKCG 71
                                                  tted (AUG-1999) to the EMBL/GenBank/DDBJ databases. AF174243; AAF89907.1; -. P05484; 1MVI. P05484; 1MVI. PR004214; Conotoxin. PF02950; Conotoxin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                      62
                                                                                                                                                                               000 (TrEMBLrel. 15, Created)
000 (TrEMBLrel. 15, Last sequence update)
002 (TrEMBLrel. 21, Last annotation update)
p conotoxin (Fragment).
riatus (Striated cone).
a; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
opoda; Conoidea; Conidae; Conus.
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D=6493;
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00 (TrEMBLrel. 15, Last sequence update)
02 (TrEMBLrel. 21, Last annotation update)
conotoxin (Fragment).
iatus (Striated cone).
; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
poda; Conoidea; Conidae; Conus.
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                                                                                                                                                                         ID=6493;
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                                                                                                                                                                                                                                                                                                                                                                                                       86.5%; imilarity 93.9%; Conservative
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  Similarity
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                                  AA;
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                                  7033 MW;
   85.7%;
92.4%;
                                                                                                                                                                                                                                                                                                                                                                                                         Score 327; DB 5; Pred. No. 8.3e-35; 1; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                  286F491D7CA7DA05 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
  Score 324; DB 5; pred. No. 2e-34;
                                   887E401681A7C7B3 CRC64;
                                                                                                                                                                                                                                                                      PRT;
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               Length 66;
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                                                                                                                          fish-
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CRC64;

Length 66;

Gaps

0

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RESULT
O9NCU1
1D
O5
AC
OC
DT
O0
OC
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RN
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Q9NCV0
ID Q9
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Best Local S
Matches 61
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                                                                                                                                                                              Q9NCU1;
Q9NCU1;
Q9NCU1;
O1-OCT-2000 (TrEMBLrel. 15, Created)
O1-OCT-2000 (TrEMBLrel. 15, Last sequence upon conclosin (Fragment).
Conus striatus (Striated cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Concentation Neogastropoda; Concidea; Concidea; Conus.
NCBI_TaxID-6493;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9NCVO;
Q9NCVO;
Q9NCVO;
O1-OCT-2000 (TrEMBLrel. 15, Created O1-OCT-2000 (TrEMBLrel. 15, Last se O1-JUN-2002 (TrEMBLrel. 21, Last an Four-loop conotoxin (Fragment).
Conus striatus (Striated cone).
Eukaryota; Metazoa; Mollusca; Gastr Neogastropoda; Conoidea; CnCBI_TaxID=6493;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=6493;
[1]
SEQUENCE FROM N.A.
STRAIN=CSTRH_1_7;
Duda T.F., Palumbi S.R.;
"Molecular evolution of foureating Conus.";
Submitted (AUG-1999) to the EMBL; AF174246; AAF89910.1; -HSSP; P05484; 1MVI.
InterPro; IPR004214; Conotoxipfam; PF02950; Conotoxipfam; PF02950; Conotoxin; 1.
NON_TER
1
SEQUENCE 66 AA; 6981 MW;
[1]

SEQUENCE FROM N.A.

STRAIN=CSTRH_R_1;

Duda T.F., Palumbi S.R.;

"Molecular evolution of fou eating Conus.";

Submitted (AUG-1999) to the EMBL; AF174267; AAF89931.1;

HSSP; P05484; 1MVI.

InterPro; IPR004214; Conoto Pfam; PF02950; Conotoxin; 1
                                                                                                                                                                                                                                                                                                                                                                  7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         n 85.4%;
Similarity 92.4%;
51; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                66
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                                                                 the
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Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 323; DB 5;
Pred. No. 2.7e-34;
2; Mismatches 3;
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dae; Conus.
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Q9N628
ID Q5
AC Q5
DT Q5
DT Q5
OC Q5
OC N
OC N
OC N
OC N
RP S
RP RT
RP RT
RT
RT
DR
DR
DR
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DR
DR
SQ
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Q9NCW3
ID Q9
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DT 01
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
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Eukaryota; Metazoa; Mollusca; Gastropoda; Canegastropoda; Conoidea; Conidae; Conus.

Neogastropoda; Conoidea; Conidae; Conus.

NCBI_TaxID=101291;

[1]

SEQUENCE FROM N.A.

STRAIN=CCATH_1II_9, AND CCATH_1II_6;

Duda T.F., Palumbi S.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       eating Conus.";
Submitted (AUG-
EMBL; AF174229;
EMBL; AF174226;
HSSP; P05484; 1
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Q9N628;
Q1-OCT-20
Q1-OCT-20
Q1-JUN-20
                                                                                                                                                            Q9NCW3;
Q9NCW3;
Q1-OCT-20
01-OCT-20
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SEQUENCE
   SEQUENCE
STRAIN=CC
Duda T.F.
"Molecula
                                                                                                                                Four-loop
Conus cat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro;
Pfam; PFO
NON_TER
SEQUENCE
                                                                              Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=101291;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN-CCATH_1II_9, AND CCATH_1II_6;
Duda T.F., Palumbi S.R.;
"Molecular evolution of four-loop conotoxin precursors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Four-loop
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8; Conserv
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  FROM N.A.
CATH_11_7;
., Palumbi S.R.;
ar evolution of four-loop conotoxin precursors
                                                                                                                                                               000 (TrEMBLrel. 15, Created)
000 (TrEMBLrel. 15, Last sequence update)
002 (TrEMBLrel. 21, Last annotation update)
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174229; AAF89893.1; -.
174226; AAF89890.1; -.
5484; 1MVI.
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000 (TrEMBLrel. 15, Last sequence update)
002 (TrEMBLrel. 21, Last annotation update)
p conotoxin precursor (Fragment).
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950; Conotoxin; 1.
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nilarity 87.9%;
Conservative 3
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                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 309; DB 5; Length 66; Pred. No. 1.8e-32; 3; Mismatches 5; Indels
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Caenogastropoda;

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Best Local S
Matches 57
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SEQUENCE FROM N.A.

STRAIN=CCATH_1I_6, CCATH_1I_1, AND (
Duda T.F., Palumbi S.R.;

"Molecular evolution of four-loop completing Conus.";

eating Conus.";

Submitted (AUG-1999) to the EMBL/General EMBL; AF174219; AAF89883.1; -...

EMBL; AF174214; AAF89878.1; -...

EMBL; AF174215; AAF89879.1; -...

HSSP; P05484; 1MVI.

ThterPro: TPR004214; Conotoxin.
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Q9N633;
Q1-OCT-2000 (
Q1-JUN-2002 (
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Neogastropoda; Conoidea; Conidae;
NCBI_TaxID=101291;
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                                                Q9N625;
Q9N625;
01-OCT-2000
01-OCT-2000
01-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
   Conus catus
Eukaryota;
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58; Conserv
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Similarity 86.4%;
57; Conservative
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i950; Conotoxin;
                                   )0 (TrEMBLrel. 15, Created)
)0 (TrEMBLrel. 15, Last sequence up)
)2 (TrEMBLrel. 21, Last annotation conotoxin precursor (Fragment).
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      Metazoa;
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     Mollusca;
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Last sequence update)
Last annotation update
sor (Fragment).
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3; Mis
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Pred.
4; Mis
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lae; Conus.
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ed. No. 1.8e-3
Mismatches
                                                                                                                            PRT;
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      Gastropoda;
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on update)
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         Caenogastropoda;
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STRAIN=VA.
Duda T.F., t
Duda T.F., t
"Molecular evo-
eating Conus.";
submitted (AUG
Submitted (AUG
EMBL; AF17422
EMBL; AF17422
'VBL; AF17427
'YBL; AF17427
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EMBL; AF174224;
EMBL; AF174225;
HSSP; P05484; 11
InterPro; IPR00
Pfam; PF02950;
NON_TER 1
SEQUENCE 66 A
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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN=CCATH_1I_5;
Duda T.F., Palumbi S.R.;
"Molecular evolution of formating Conus.";
-ating Conus.";
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NCBI_TaxID=101291;
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STRAIN=VARIOUS STRAINS;
                                                                                                                                                                                                                                                                                           Eukaryota
Neogastro
NCBI_TaxII
                                                                                                                                                                                                                                                                                                                            Q9NCW4; PRELIMINARY; PRT; 66 AA.
Q9NCW4;
Q1-OCT-2000 (TrEMBLrel. 15, Created)
Q1-OCT-2000 (TrEMBLrel. 15, Last sequence update)
Q1-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Four-loop conotoxin (Fragment).
Conus catus.
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Submitted
EMBL; AF1
HSSP; P05
InterPro;
Pfam; PF0
NON_TER
SEQUENCE
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                                          VVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAYNCCTGSC 65
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RSG
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                                                                                         80.2%;
Similarity 86.4%;
7; Conservative
                      3KCG 71
                                                                                                                                                                                                                                                                                             opoda; Conc
ID=101291;
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  RCG 66
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IPR004214; Conotoxin.
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                                                                                                                                                                                                                                                                                                      Metazoa; Mollusca; Gastropoda;
oda; Conoidea; Conidae; Conus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          66
                                                                                                                                          66 AA;
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                                                                                                                                           6995 MW;
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                                                                                                                                                                                                                                      four-loop conotoxin precursors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    score 304; DB 5; Length 66;
Pred. No. 7.8e-32;
4; Mismatches 5; Indels
                                                                                                                                                                                                             EMBL/GenBank/DDBJ databases.
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                                                                                            score 303; DB 5; Length 66;
pred. No. 1e-31;
3; Mismatches 6; Indels
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RESULT

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RESULT
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Q9NCW1;
01-OCT-2000 (TrEMBLrel. 15, Creat
01-OCT-2000 (TrEMBLrel. 15, Last
01-JUN-2002 (TrEMBLrel. 21, Last
Four-loop conotoxin (Fragment).
Conus catus.
                                                                                                                                                                                                                                                                                                       eating Conus.";
Submitted (AUG-1999) to the E
EMBL; AF174238; AAF89902.1; -
HSSP; P05484; 1MVI.
InterPro; IPR004214; Conotoxi
Pfam; PF02950; Conotoxin; 1.
NON_TER 1 1
SEQUENCE 66 AA; 7081 MW;
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Submitted (AUG-1999) to the E
EMBL; AF174227; AAF89891.1; -
HSSP; P05484; 1MVI.
InterPro; IPR004214; Conotoxi
Pfam; PF02950; Conotoxin; 1.
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SEQUENCE FROM N.A.
STRAIN=CCATH_R_4;
Duda T.F., Palumbi S.R.;
"Molecular evolution of form
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SEQUENCE FROM N.A.
STRAIN-CCATH_1II_7;
Duda T.F., Palumbi S.R.;
"Molecular evolution of f
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Q9NCV5;
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Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=101291;
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01-OCT-2000 (TrEMBLrel. 15, Las
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Four-loop conotoxin (Fragment).
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Neogastropoda; Conoidea;
NCBI_TaxID=101291;
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57; Conservative
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idea; Conidae; Conus.
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Pred. No. 1.4e-31;
3; Mismatches 6;
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Lupoda; Caenogastropoda

Lupoda; Caenogastropoda

RC STRAIN-CCATH_11_3;
RA Duda T.F., Palumbi S.R.;
RT "Molecular evolution of four-loop conotoxin precursors from eating Conus.";
RL Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases.

DR EMBL; AF174216; AAF89880.1; -.

DR HSSP; P05484; 1MVI.

PR InterPro; IPRO04214; Conotoxin.

R Pfam; PF02950; Conotoxin; 1.

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01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Four-loop conotoxin (Fragment).
Conus catus.
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogast:
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Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=101291;
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MEDLINE-95367555; PubMed-7640281;
Kohno T., Kim J.-I., Kobayashi K.,
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blocker omega-conotoxin MVIIA.";
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J. Biol.
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Neogastropoda; Conoidea; Conidae;
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Sharpe I.A., Luchian T., Adams D.J., Bo
Matheson J.-L., Drinkwater R., Andrews
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Basus V.J., Nada
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SYNTHESIS, AND PubMed=7826361;
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Zeikus R.D., McIntosh J.M., Galyean
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Nielsen K.J., Thomas L., Lewis R.J., Alewood P.F., Craik D.J
Nielsen K.J., Thomas L., Lewis R.J., Alewood P.F., Craik D.J
"A consensus structure for omega-conotoxins with different
"A consensus structure for omega-conotoxins with different
selectivities for voltage-sensitive calcium channel subtypes
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J. Mol. Biol. 263:297-310(1996).
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J D.P., Koehn R.E., Gilbert D.E., Wagner G.;

structure and backbone dynamics of an omega-conotoxin
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                                                                                                 AMIDATION (G-71 PROVIDE AMIDE GROUP).
K->A: LITTLE DECREASE IN ACTIVITY.
Y->A: STRONG DECREASE IN ACTIVITY.
E2A32725C81AF31D CRC64;
                                                                                                                                                                                      OMEGA-CONOTOXIN MVIIA.
                                                                                                                                                                                                               POTENTIAL.
                                                   ed. No. 2e-2
Mismatches
                                                                                                                                                                                                                       Pharmaceutical.
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                                                       333; L,
No. 2e-29;
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                                                                                                                                                                                                                                       Calcium
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                                                       Indels
                                                                                                                                                                                                                                        channel
                                                                                                                                                                                                                                         inhibitor;
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J. Biol. Chem. 275:35335-35344(2000).
-!- FUNCTION: Omega-conotoxins act at presyn and block voltage-sensitive calcium chan similarity). This toxin blocks N-type ca-!- SUBCELLULAR LOCATION: Secreted.
-!- TISSUE SPECIFICITY: Expressed by the ven-!- SIMILARITY: BELONGS TO THE O-SUPERFAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15-JUN-2002 (Rel. 41, 
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15-JUN-20
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STRUCTURE
MEDLINE-97
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Cruz L.J.
"Novel al
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MEDLINE-97070382; PubMed-8913308;
Nielsen K.J., Thomas L., Lewis R.J., Alewood P.F., Craik D.J.;
"A consensus structure for omega-conotoxins with different selectivities for voltage-sensitive calcium channel subtypes: comparison of MVIIA, SVIB and SNX-202.";
J. Mol. Biol. 263:297-310(1996).
-!- FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind and block voltage-sensitive calcium channels (VSCC). This toxin blocks N-, P-, and Q-type calcium channels.
-!- SUBCELLULAR LOCATION: Secreted.
-!- TISSUE SPECIFICITY: Expressed by the venom duct.
-!- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cloning."
Peptides
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PDB; ]
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., Zafaralla G.C., Nadasdi L., Hammerland L.G., Yoshikami D
., Kristipati R., Ramachandran J., Miljanich G., Olivera B.!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20037955; PubMed=10573284;
, Yu F., Zhao D., Huang P.-T., Huand
tides from Conus striatus and Conus
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tic neurotoxin; N
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J; 12-AUG-97.
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                                                                                                                                                                                                                 Conservative
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41, Created)
41, Last sequence
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22 POT
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71 OME
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                                                                                                                                                                                                                                                                     7741 MW;
                                                                                                                                                                                                                             81.9%;
83.3%;
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                                                                                                                                                                                                              Score 309.5; DB 1; Pred. No. 6.8e-27; ; Mismatches 6;
                                                                                                                                                                                                                                                                     AMIDATION (G-72 PROVIDE AMIDE GROUP).
1F753546AAD39908 CRC64;
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                                        73 AA.
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Conus textile
                                                                                                                                                                                                                                          Length 72;
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                                                                                                                                  CXO6_CONGE STANDARD; PRT; 73 AA.

P01522;
21-JUL-1986 (Rel. 01, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Drecursor (Shaker peptide) (Somega-conotoxin GVIA precursor (Shaker peptide) (Somega-conotoxin GVIB; Omega-conotoxin GVIC].

Conus geographus (Geography cone).

Conus geographus (Geography cone).

Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogas
Neogastropoda; Conoidea; Conidae; Conus.

NCBI_TaxID=6491;
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SIGNAL
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"Novel omega-conotoxins from Conus catus discriminate among calcium channel subtypes.";

J. Biol. Chem. 275:35335-35344(2000).

-!- FUNCTION: Omega-conotoxins act at presynaptic membranes, and block voltage-sensitive calcium channels (VSCC) (By similarity). This toxin blocks N-type calcium channels.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Venom duct,
PubMed=10938268;
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DISULFID
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SEQUENCE
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                                              Toxicon [2]
                                                                          SEQUENCE FROM N.A.

MEDLINE=93069266; PubMed=1440648;

Colledge C.J., Hunsperger J.P., I

"Precursor structure of omega-con
SEQUENCE OF 46-73.
MEDLINE=85072796; PubMed=6509012;
Olivera B.M., McIntosh J.M., Cruz
"Purification and sequence of a p
                                                                   clone.";
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SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the veno
SIMILARITY: BELONGS TO THE O-SUPERFAMILY
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                                                        30:1111-1116(1992)
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Luchian T.,
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idea; Conidae; Conus.
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D.J., Bond T., Thomas
Andrews P.R., Alewood
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 uz L.J., Lu
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peptide
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Davis J.H.,
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Pallaghy P
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"Refined :
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fined solution structure of omega-conotoxin GVIA: implications for cium channel binding.";
Pept. Res. 53:343-351(1999).
Pept. Res. 50:343-351(1999).
FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind and block voltage-sensitive calcium channels (VSCC).
SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the venom duct.
FINILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE FAMILY.
 y Match
Local
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A60133; NTKN6G.
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                                                                                                                                                                                                                                                                                                                                                                                                                ; 31-JAN-54.; IPR004214; Conotoxin.; IPR004214; Conotoxin. 1.
)2950; Conotoxin; Neurotoxin; Toxin; Calcium channel inhibitor; tic neurotoxin; Neurotoxin; Toxin; Calcium channel inhibitor; tic neurotoxin; Neurotoxin; Toxin; Calcium channel inhibitor; bic neurotoxin; Neurotoxin; Toxin; Calcium channel inhibitor; tic neurotoxin; Neurot
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047089; PubMed=8230223;
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ry 23:5087-5090(1984).
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    Similarity
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248506; PubMed=
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31-JAN-94.
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Py E.K., Miljanich G.P., Nadasdi L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gan B.M., Pennington M.W., Norton R.S.;
structure in solution of the calcium channel
toxin.";
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AMIDATION (G-73
GVIA).
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     score 259.5; Dipred. No. 1.6e-
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GVIA.
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P56633;
15-DEC-1998 (Rel. 37, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Kappa-conotoxin PVIIA precursor (Fin-popping pep
Conus purpurascens (Purple cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenog
Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=41690;
[1]
SEQUENCE FROM N.A., AND SYNTHESIS.
MEDLINE=98079023; PubMed=9417043;
Shon K.-J., Stocker M., Terlau H., Stuehmer W.,
Walker C.S., Grilley M.M., Watkins M., Hillyard
Olivera B.M.;
"Kappa-conotoxin PVIIA is a peptide inhibiting t
channel.";
J. Biol. Chem. 273:33-38(1998).
                                                    MUTAGENESIS OF ARG-47; ILE-48; PRO-49; ASN-5-PHE-54; GLN-55; HIS-56; LEU-57; ASP-58; ASP-LYS-64; ARG-67; PHE-68; ASN-69 AND LYS-70. PubMed=10818087; Jacobsen R.B., Koch E.D., Lange-Malecki B., tvan Wagoner R.M., Vyazovkina A., Olivera B.M. "Single amino acid substitutions in kappa-coninteraction with the shaker K+ channel."; J. Biol. Chem. 275:24639-24644(2000).
                                                                                                                                                                 Savarin P., Guenneugues M., Gilqui Zinn-Justin S., Menez A.;
"Three-dimensional structure of ka potassium channel-blocking toxin f Biochemistry 37:5407-5416(1998).
                                                                                                                                                                                                Nature 381:148-151(1996).

[3]

STRUCTURE BY NMR.

TISSUE-Venom;

MEDLINE-98104087; PubMed-9438859;

Scanlon M.J., Naranjo D., Thomas L.

Craik D.J.;

"Solution structure and proposed bi

potassium channel toxin kappa-conot

Structure 5:1585-1597(1997).

[4]

STRUCTURE BY NMR.

MEDLINE-98217295; PubMed-9548922;

Savarin P., Guenneugues M., Gilquin

Zinn-Justin S., Menez A.;

"Three-dimensional structure of kap
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[2]
SEQUENCE OF 46-72, P
PubMed=12074021;
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Olivera B.M.
"Strategy fo
snail.";
       BLOCKADE OF SHAKER CHANNEL PubMed=10398696;
Terlau H., Boccaccio A., Ol
"The block of Shaker K+ cha
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        kappa-
                                                                                                                                                                                                                                                                                                                                                                                                                     Stocker
                                                                                                                                                                                                                                                                                                                   Alewood
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; ASP
                    Conti
                                                                                     B., Stocker M.,
a B.M., Terlau H
pa-conotoxin PVI
                                                                                                                                                                                                                           Lamthanh
                                                                                                                                                                                                                                                                                 mechanism PVIIA.";
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          conotoxin
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                                                                                                                                             GLN-51; I
; SER-62;
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D.R., Gray
                                                                                                                                                                                       PVIIA,
ls.";
                                                                                                                                                                                                                                                                                                                                                                                              fish-hunting marine
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                                                                                      PVIIA
         PVIIA
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                                                                                                                                             LYS-52; ; ARG-63;
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                                                                                                                                                                                                                                                                                            novel
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Query Mato
Best Local
Matches
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3D-struct
SIGNAL
PROPEP
PEPTIDE
DISULFID
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DISULFID
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Biophys.
-!- FUNCT
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PubMed=1:
Naranjo I
                                                        MOD_RES
MUTAGEN
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Moran O.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PDB;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       extension of major fins, without immobilization or death.
Injection of this peptide together with the delta-conotoxin PVIA
causes the sudden tetanus of prey (STOP) syndrome, which is a
single, lethal "fin-pop" in envenomated fish. In mice, induces
hyperactivity.

-!- SUBCELLULAR LOCATION: Secreted.
-!- TISSUE SPECIFICITY: Expressed by the venom duct.
-!- MASS SPECTROMETRY: MW-3268.4; METHOD-FAB.
-!- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS.
-!- CAUTION: Because analogs resulting of mutagenesis of Hyp-49, Asn-
secults of mutagenesis on these residues should be interpreted
with caution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Inhibition of single Shaker K channels by kappa-conotoxin-PVIIA.";
Biophys. J. 82:3003-3011(2002).

-I- FUNCTION: Kappa-conotoxins bind and inhibit voltage-sensitive potassium channels. The rat brain voltage-gated potassium channel protein Kv1.1 is resistant to this toxin, but the voltage-gated potassium channel protein Shaker (Drosophila) is sensitive. The interaction site between the Shaker channel and this toxin is within the S5-S6 loop of the Shaker channel. In fish, this toxin is induces hyperactivity, followed by continuous contraction and extension of major fins, without immobilization or death. Injection of this peptide together with the delta-conotoxin PVIA causes the sudden tetanus of prey (STOP) syndrome, which is a single, lethal "fin-pop" in envenomated fish. In mice, induces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           [7]
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                              Match
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1KCP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bio
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ar simulation of the interaction of kappa-conotoxin-PVIIA with er potassium channel pore."; phys. J. 30:528-536(2001).
   Similarity 67. 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   in;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              THE SHAKER-PVIIA INTERACTION. 1820396;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Physiol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ture;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OF SHAKER CHANNEL BY PVIIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18-NOV-98.
14-OCT-98.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Toxin;
                                                                       Signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        114:125-140(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Potassium
                                                                           61.8%;
67.6%;
                                                            X
W
                                                    HYDROXYLATION.

R->A,K,Q: 100% REDUCTION OF TOXICITY.
I->A: 3-FOLD DECREASE OF TOXICITY.
P->A: 100% REDUCTION OF TOXICITY.
Q->A: 13-FOLD DECREASE OF TOXICITY.
K->A,R: 100% REDUCTION OF TOXICITY.
F->A,M: 100% REDUCTION OF TOXICITY.
F->Y: 11-FOLD DECREASE OF TOXICITY.
Q->A: 3-FOLD DECREASE OF TOXICITY.
L->A: 100% REDUCTION OF TOXICITY.
D->A: 100% REDUCTION OF TOXICITY.
D->A: 100% REDUCTION OF TOXICITY.
S->A: 1.5-FOLD DECREASE OF TOXICITY.
R->A: 1.5-FOLD DECREASE OF TOXICITY.
R->A: 3.5-FOLD DECREASE OF TOXICITY.
R->A: 1.2-FOLD DECREASE OF TOXICITY.
R->A: 1.7-FOLD DECREASE OF TOXICITY.
R->A: 17-FOLD DECREASE OF TOXICITY.
S->A: 17-FOLD DECREASE OF TOXICITY.
R->A: 17-FOLD DECREASE OF TOXICITY.
S->A: 117-FOLD DECREASE OF TOXICITY.
   Pred.
6; Mi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  channel inhibitor; Hydroxylation;
                              Score
                                                                                                                                                                                                                                                                                                                                                                                                                          KAPPA-CONOTOXIN PVIIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                       POTENTIAL.
Mismatches
233.5; DB 1;
No. 9.9e-19;
smatches 16;
    Indels
                              Length
   Gaps
    1;
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MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAYNC

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CXOA_CONST
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        Q
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Best Local
Matches 4
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SEQUENCE FROM N.A.
TISSUE=Venom duct;
MEDLINE=20037955; PubMed=10573284;
Lu B.-S., Yu F., Zhao D., Huang P.-'
"Conopeptides from Conus striatus a.
cloning.";
Peptides 20:1139-1144(1999).
[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Molli
Neogastropoda; Conoidea;
NCBI_TaxID=6493;
                                                                                                                                                                               between the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is entities requires a license agreement.
                                                                                                                                                                                                                                                                                                                                     SEQUENCE OF 4
TISSUE-Venom;
                                                    DISULFID
DISULFID
DISULFID
MOD_RES
MOD_RES
SEQUENCE
                                                                                                                                           Pfam;
                                                                                                                                                        EMBL; AF146347; PIR; B44379; B4
                                                                                                            PROPEP
                                                                                                                   SIGNAL
                                                                                                                                 Presynaptic
                                                                                                     PEPTIDE
                                                                                                                           Amidation;
                                                                                                                                                   InterPro;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MKLTCVVIVVVLFLTACQLITADDSRRTQKHRALRSTTKLSLSTRCRIPNQKCFQHLDDC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGSC-RSGKC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CSRKCNRFNKC
                                                                                                                                          PF02950; Conotoxin;
MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMS
                       th 60.7%; Similarity 64.4%; 47; Conservative
                                                                                                                                                  46347; AAD31907.1; -.
79; B44379.
IPR004214; Conotoxin.
                                                                                                                           neurotoxin; Neurotoxin;
Hydroxylation; Signal.
                                                                                                                                                                                                                                                                                                                                                49-72,
                                                       72
                                                             755544931
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                                                                                                                                                                                                                                                                                                                                                                                              PubMed=10573284;
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72
63
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                                                      HYDROXYLATION.
AMIDATION.
4A6A412E450469A1
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                                                                                                      OMEGA-CONOTOXIN
                                                                                                                      POTENTIAL.
                                        Score
                                 Pred.
                         ed. No. 2.66
Mismatches
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                      229.5; LL
No. 2.6e-18;
                                                                                                                                                                                          removed. Usage by and for commercia ent (See http://www.isb-sib.ch/announce
                                                                                                                                     Toxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  72
                                                                                                                                                                                                                                                                                                                                                                               Huang C.-F.;
Conus textile
                                                                                                                                                                                                                                                                                                                  Hammerland L.G., J., Miljanich G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                             Caenogastropoda;
                                                                                                                                      Calcium
                                                                                                                                                                                                                                                                                                     striatus venom
                                                                                                       SVIA
                                                                                                                                                                                                                                                               duct.
                                                         CRC64;
                                                                                                                                                                                                                                                         CONOTOXINS.
                                                                                                                                                                                                                                                                             c membranes, (VSCC).
                           Indels
                                          Length
                                                                                                                                      channel
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   TRCKGTGKPCSRIA
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                                          72;
                                                                                                                                       inhibitor;
                                                                                                                                                                                                                                                         OMEGA-TYPE
                                                                                                                                                                                                                           collaboration -
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RESULT
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Q9XZL5;
15-JUN-2002
15-JUN-2002
15-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                              cloning.";
Peptides 2
-!- FUNCTI
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                                                                                                                                                                                                                                                                                                                                                                                      Peptides 20:1139-1144(1999).

-!- FUNCTION: Omega-conotoxins act at presynaptic membranes, th and block voltage-sensitive calcium channels (VSCC) (By similarity).

-!- SUBCELLULAR LOCATION: Secreted.
-!- TISSUE SPECIFICITY: Expressed by the venom and conus textile by cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=20037955; P
Lu B.-S., Yu F., Zh
"Conopeptides from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Omega-cono
Conus stri
                                                                                                                                                                                                                                                                                               modified entities or send a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=6493;
                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Neogastropoda;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota;
                                                                                                                                 PROPEP
PEPTIDE
DISULFID
DISULFID
DISULFID
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MOD_RES
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Amidation
SIGNAL
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                                                                                                                                                                                                                                                                         InterPro;
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y-2002 (Rel. 41, Last sequence update)
y-2002 (Rel. 41, Last annotation update)
conotoxin SVIA mutant 2 precursor.
striatus (Striated cone)
                                         MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSD---TKLSMSTRCKGTGKPCSRIA 57
TSICCGRCSRGKC
                     YNCCIGSCRSGKC 70
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                                                                                        Similarity 6; Conserv
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                                                                                                                                                                                                                                                              2950; Conotoxin;
                                                                                                                                                                                                                                                    10
                                                                                                                                                                                                                                                                                    46361;
                                                                                                                                                                                                                                                                        6361; AAD31921.1; -. IPR004214; Conotoxin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Metazoa;
                                                                                                                                                                                                                                       neurotoxin; Neurotoxin; Hydroxylation; Signal.
                                                                                      60.4%; ilarity 63.0%; Conservative
                                                                                                                                               1
23
49
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56
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72
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mollusca; Gas
idea; Conidae;
                                                                                                                                    7790
                                                                                                                                                            48
72
63
71
                                                                                                                                       ₩;
                                                                                                                                                                      POTENTIAL.

OMEGA-CONOTOXIN S
BY SIMILARITY.
BY SIMILARITY.
                                                                                         Score 228.5; DB 1;
Pred. No. 3.4e-18;
8; Mismatches 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gastropoda;
                                                                                                                                     HYDROXYLATION (BY SIMILARITY) AMIDATION (BY SIMILARITY). 4A7E1124F0B7F061 CRC64;
                                                                                                                                                                                                                              POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conus.
                                                                                                                                                                                                                                                     Toxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Caenogastropoda;
                                                                                                                                                                                                                                                      Calcium channel
                                                                                                                                                                                                          SVIA MUTANT
                                                                                            14;
                                                                                                                  Length 72;
                                                                                             Indels
                                                                                                                                                                                                                                                         inhibitor;
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RESULT 10 CXO1_CONST

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RESULT
CXO5_CC
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DT 15
OT 05
CC CC
CC EV
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TISSUE=Venom duct;
MEDLINE=20037955; PubMed=10573284;
Lu B.-S., Yu F., Zhao D., Huang P.-T., Huang C.-F.;
"Conopeptides from Conus striatus and Conus textile cloning.";
Peptides 20:1139-1144(1999).
-I- FUNCTION: Omega-conotoxins act at presynaptic m and block voltage-sensitive calcium channels (V similarity).
C -I- SUBCELLULAR LOCATION: Secreted.
-I- TISSUE SPECIFICITY: Expressed by the venom ductor of the constant of the 
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Best Loc
Matches
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Q9XZL4;

15-JUN-2002 (Rel.

15-JUN-2002 (Rel.

15-JUN-2002 (Rel.
Omega-type cono
SO5.
Conus striatus
Eukaryota; Meta
                                                              _CONST
CXO5_CONST
Q9XZK4;
16-OCT-2001
16-OCT-2001
15-JUN-2002
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DISULFID
DISULFID
DISULFID
MOD_RES
MOD_RES
SEQUENCE
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PROPEP
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15-JUN-2002 (Rel. 41, Last sequence upd
15-JUN-2002 (Rel. 41, Last annotation u
Omega-conotoxin SVIA mutant 1 precursor
Conus striatus (Striated cone).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Moll
Neogastropoda; Conoidea;
NCBI_TaxID=6493;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             [1]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF02950; Conotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Amidation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Presynaptic neurotoxin; Neurotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro;
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                                                                                                                                                                                                                                                                                                                                                                   Local
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                                                                                                                                                                                                                                                                                                                                               similarity 63.0%;
46; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                               Hydroxylation;
1 22
23 48
49 72
49 63
56 66
62 71
55 55
72 72
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725
725
727
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727
                                               conotoxin
Metazoa;
                                                              (Rel. 40, (Rel. 40, (Rel. 41,
                 (Striated cone)
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                                                                                                                                  STANDARD;
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7804
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dea; Conidae;
 Mollusca;
                                             Last sequence up Last annotation SO5 precursor.
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                                                                                                Created)
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POTENTIAL.
                                                                                                                                                                                                                                                                                                                                               Score 225.5;
Pred. No. 7.1e
7; Mismatches
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BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                             BY SIMILARITY.
BY SIMILARITY.
HYDROXYLATION (BY SIMILARITY)
AMIDATION (BY SIMILARITY).
4A7E0560B1AD5420 CRC64;
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dae; Conus.
                                                                                                                                 PRT;
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 Gastropoda;
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on update)
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                                                              update)
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 Caenogastropoda;
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DE CONOTOXINS.
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Q9XZK3;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence u
15-JUN-2002 (Rel. 41, Last annotation
Omega-type conotoxin SO4 precursor.
SO4.
[1]
SEQUENCE FROM N.A.
TISSUE=Venom duct;
MEDLINE=20037955; PubMed=10573284;
Lu B.-S., Yu F., Zhao D., Huang P.-T
"Conopeptides from Conus striatus an cloning.";
Peptides 20:1139-1144(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPI
Pfam; PF0295(
Presynaptic r
Signal.
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SEQUENCE 7:
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NCBI_TaxI
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Peptides 20:1139-1144(1999).
-!- FUNCTION: Omega-conotoxins act at presynaptic membranes,
and block voltage-sensitive calcium channels (VSCC) (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE=Venom duct;
MEDLINE=20037955; PubMed=10573284;
Lu B.-S., Yu F., Zhao D., Huang P.-T., Huang
"Conopeptides from Conus striatus and Conus cloning.";
                                                                                            Conus striatus (Striated cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=6493;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; AF146350; AAD31910.1;
                                                                                                                                                                                                                                                                                                                                                                                    Local
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                                                                                                                                                                                                                                                                                                                                                                                                Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way ified and this statement is not removed. Usage by and for commercial ities requires a license agreement (See http://www.isb-sib.ch/announce/send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      similarity).
SUBCELLULAR LOCATION: Secreted (By similarity).
TISSUE SPECIFICITY: Expressed by the venom duct.
SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS.
FAMILY.
                                                                                                                                                                                                                                                                                                                         CTGSC 65
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46; Conserv
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kID=6493;
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OMEGA-TYPE CONOTOXIN SO5.
BY SIMILARITY.
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BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                   Score 222.5; DB 1; Pred. No. 1.6e-17;
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                          .-T., Huang C.-F.; and Conus textile
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Conus textile
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SEQUENCE 7
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between
the Euro
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                                                                                                                                                                                                                                             16-OCT-2001 (Rel. 40, C
16-OCT-2001 (Rel. 40, I
15-JUN-2002 (Rel. 41, I
Omega-conotoxin PuliA p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; AF146349; AAD31909.1; InterPro; IPR004214; Conotox Pfam; PF02950; Conotoxin; 1. Presynaptic neurotoxin; Neur
                                                                                                                                                                                                                                                       CXO2_CONPL
Q9XYZ1;
16-OCT-2001
16-OCT-2001
15-JUN-2002
                                                                                 Zhao D., Yao J., Dai Q., Huang P.;
Submitted (MAR-1999) to the EMBL/GenBank/DDBJ databases
-!- FUNCTION: Omega-conotoxins act at presynaptic membra
and block voltage-sensitive calcium channels (VSCC)
similarity).
-!- SUBCELLULAR LOCATION: Secreted (By similarity).
-!- TISSUE SPECIFICITY: Expressed by the venom duct.
-!- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOX
                                                                                                                                                                                   Eukaryota; Metazoa; Mollusca; Gas
Neogastropoda; Conoidea; Conidae;
NCBI_TaxID=93154;
                                                                                                                                                                                                                                                                                                             CONPL
use by modified entities
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                This SWISS-PROT entry is copyright. It is produced between the Swiss Institute of Bioinformatics and the European Bioinformatics Institute. There are ruse by non-profit institutions as long as its constitution as long as its constitution.
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similarity).
SUBCELLULAR LOCATION: !
TISSUE SPECIFICITY: Expecificity: Expecificity: Expecificity: Expecificity: Belongs To
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44; Conservative
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OMEGA-TYPE CON
BY SIMILARITY.
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ed. No. 3.8e-17
Mismatches 1
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um channels
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Neogastro
NCBI_TaxII
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01-NOV-1990 (Rel. 16, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
16-Last annotation update)
18-JUN-2002 (Rel. 41, Last sequence update)
18-JUN-2002 (Rel. 41, Last sequence update)
18-JUN-2002 (Rel. 16, Last sequence update)
18-JUN-2002 (Rel. 41, Last annotation update)
18-JUN-2002 (Rel. 41, Last
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Ramilo C.
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Biochemis
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MEDLINE=90214607; PubMed=1691090;
Woodward S.R., Cruz L.J., Olivera B.M.,
"Constant and hypervariable regions in EMBO J. 9:1015-1020(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 52-78.
STRAIN=Neovicarius;
MEDLINE=92104183; PubMed=1761058;
Fainzilber M., Gordon D., Hasson A., Spira "Mollusc-specific toxins from the venom of neovicarius.";
                                                                                                                                                                                                                                                                                                                                                                                                       Eur.
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 PubMed={Fainzil}
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CHARACTE
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EDLINE=94084232; PubMed=8261090; EDLINE=94084232; PubMed=8261090; Zasson A., Fainzilber M., Gordon D., Zasson A., Fainzilber M., Fainzi
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d=8300586;
ilber M., Kofman O., Zlotkin E.,
w neurotoxin receptor site on so
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D.R., Olivera B.M., Woodward S.R.,
A., Cruz L.J.;
scivorous Conus toxin: conserved fractive conserved
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Conoidea; Conidae; Conus.
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OMEGA-CONOTOXIN
BY SIMILARITY.
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ed. No. 3.3e-11;
Mismatches 22;
                 sodium channels
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                                                  Gordon D.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    channel (VSSC) and inhibit the inactivation process. Binding of this toxin is strongly calcium-dependent but not voltage-dependent. The binding site is most likely on the extracellular side of the sodium channel. Binds receptor sites on both mollusk and rat central nervous system, but despite its high affinity binding to rat sodium channel, it has no functional effect in vivo and in vitro on it. Has also no effect on Gambusia fish. Is important in mollusk for the paralysis of the prey. Upon injection of the peptide, a subordinate lobster assumes an exaggerated dominant posture (of a 'King-Kong' lobsteri).

-!- SUBCELLOUAR LOCATION: Secreted.
-!- TISSUE SPECIFICITY: Expressed by the venom duct.
-!- MISCELLANEOUS: Veratridine increases the rate of dissociation in a dose-dependent manner.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gloriamaris.";
Biochemistry 33:11420-11425(1994).
-!- FUNCTION: Delta-conotoxins bin
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Pfam; PF02950; Conot
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Shon K.-J., Hasson A., Spira M.E.
"Delta-conotoxin GmVIA, a novel p
gloriamaris.";
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FAMILY
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A30103; A30103.
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S.R., Cruz L.J., Olivera B.M., Hillyard D.R.;
It and hypervariable regions in conotoxin propeptides.";
9:1015-1020(1990).
9:1015-1020(1990).
THE SPECIFICITY: Expressed by the venom duct.
PTI.ANEOUS: THE CYSTEINE PATTERN OF KK-0, KK-1, AND KK-2
                                                                                     35.7%;
Similarity 39.4%;
8; Conservative 1
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514; S12514.
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a; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
opoda; Conoidea; Conidae; Conus.
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2001US-265888P.
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srebroprotective; cardiovascular; antiinflammatory;
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N-PSDB; AF
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05-FEB-2001;
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Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antiidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; stroke; suffocation; perinatal asphyxia; hypoglycaemic event; pain;
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                                                                                                                                                         Omega-conopeptide Cn6.2 propeptide.
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0; Conservative
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BL98893.
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                                                                                                                                                                                                                                                                                standard;
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2001US-265888P.
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                                                                                                                                                                                                                                                                                Peptide; 71 AA.
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Best Local S
Matches 70
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psychosis;
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N-PSDB; ABL98888.
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05-FEB-2001;
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Omega-conopeptide
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ilarity 98.6%;
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S6.3 propeptide
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71 AA;

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The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antiinflammatory, antimigraine, antidiabetic, tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. Peptides of the invention act by modulating the activity of voltage gated ion channels. They may be used for treating or preventing disorders associated with voltage gated ion channels such as neurological disorders, e.g. seizure (associated with epilepsy), neurotoxic injury associated with conditions of hypoxia, anoxia, ischaemia, stroke, serebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. migraine; inflammation or cardiovascular disorders. They may also be used for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analgesic agents of the invention show diminished side records ABB96595-ABB96697 represent omega-conopeptide propeptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New omega-conopeptides useful for treating disorders associated voltage gated ion channels e.g. pain, inflammation, neurological cardiovascular disorders -
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N-PSDB; ABL98939.
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05-FEB-2001;
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sequence
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Jones RM, Cartier
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                                                                                                                                                                             The invention relates to 14 novel mature conotoxin peptides from marine snails (Conus species); conotoxin precursors. The mature peptide sequences were discovered by obtaining conotoxin cDNA sequences from mRNA from the brocade cone shell (Conus textile) or the line cone shell (Conus textile) or the line cone shell (Conus triatus). The cDNA sequences were used to determine the conotoxin conotoxin sequences, and the sequences of the mature conotoxin peptides were inferred from the precursor sequences. The mature conotoxin peptides can be obtained via chemical synthesis or by in vitro conotoxin peptides can be obtained via chemical synthesis or by in vitro gene expression. Conotoxins inhibit the function of neurons and muscle cells. Certain conotoxins inhibit the function of neurons and muscle conotoxins have unique receptor specificity and affinity, so can be used as screening tools to identify new drugs. Conotoxin #11 (AAV87540) may be used for pain relief. Sequences AAV87421, AAV87523, AAV87525, AAV87527, AAV87534, AAV87531, AAV87533, AAV87537, AAV87533, AAV87541, AAV87543, AAV87543 and AAV87547 represent the precursors of conotoxins #1-#14, respectively.
                                                                                                        Query Match
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N-PSDB;
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Misc-difference
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (BIOL-) BIOLOGICAL ENG INST ACAD MILITARY MEDICI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 1A; Page 5-6; 20pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conotoxin
                                                                                                                                                            Sequence
61
                         61
                                                                                                                                   Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000-351193/31
)B; AAA10463.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sp.
                                                   CTGSCRSGKCG
CTGSCRSGKCG
                                                                                                     th 94.2%; Similarity 94.4%; 67; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         precursor;
inhibitor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  peptide
                                                                                                                                                             71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first
                                                                                                                                                              AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99CN-0106070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99CN-0106070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
                            71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     from brocade cone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; brocade
muscle in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Encoded by ATG
                                                                                                                                                                                                                                                                                                                                                                                                                                           Chinese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            inhibitor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cone
                                                                                                           0;
                                                                                                                      Score 356; DB 21; Pred. No. 9.5e-31;
                                                                                                           ed. No. 9.5e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      shell; line
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      shells useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           analgesic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       as analgesic
                                                                                                                                     Length 71;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          shell;
                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          drug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           screening;
                                                                                                             Gaps
                                                           60
                                                                                   60
                                                                                                             0;
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RESULT 6 ABB96607

Qy

1 Similarity 66; Conserv

Conservative

Indels

0;

Gaps

0

Вp

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YX
DQ
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PR
XX
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PA
XX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ΡŢ
                                                                                                                The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antiinflammatory, antimigraine, antidiabetic, cardiovascular antiinflammatory, antimigraine, antidiabetic, cerebroprotective, cerebroprotective, cerebroprotective, cerebroprotective, cerebroprotective, anticolytic and neuroleptic. They may be used for treating or preventing disorders of sasociated with voltage gated ion channels such as neurological associated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, cerebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. migraine; inflammation or cardiovascular disorders. They may also be used for treating psychiatric disorders e.g. psychosis, anxiety or ceffects and toxicity, and are non-addictive. The sequences given in cereords ABB96595-ABB96697 represent omega-conopeptide propeptide
Query Match
Best Local s
Matches 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        migraine;
psychosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           neuroprote
antimigrai
anxiolytic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       neurological
stroke; cere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Omega-con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Omega-conopeptide Ay6.1 propeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 АВВ96607;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABB96607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12-JUL-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 200
N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conus aurisiacus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           drowning;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (COGN-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         31-JAN-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200207675-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New omega-conopeptides useful for treating disorders associated with voltage gated ion channels e.g. pain, inflammation, neurological or cardiovascular disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21-JUL-2000;
05-FEB-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         23-JUL-2001;
                                                                                                      records ABI sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Jacobsen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Olivera
                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1(c); Page 28; 195pp; English.
                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2002-257318/30.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     onopeptide; analgesic; anticonvulsant; vasotropic; cardiant; otective; cerebroprotective; cardiovascular; antiinflammatory; raine; antidiabetic; tranquiliser; vulnerary; antipsychotic; tic; neuroleptic; voltage gated ion channel; seizure; epilepsy; gical disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; cerebrovascular accident; brain trauma; spinal chord trauma; g; suffocation; perinatal asphyxia; hypoglycaemic event; pain; e; inflammation; cardiovascular disorder; psychiatric disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      n R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        UNIV UTAH RES FOUND COGNETIX INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABL98867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             anxiety;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mcintosh JM, Watkins M,
Jones RM, Cartier GE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2001WO-US23041.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-219616P.
2001US-265888P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Peptide; 71 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              schizophrenia.
                  93.1%;
    Score 352; DB 23;
Pred. No. 2.5e-30;
2; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Garrett
                                           Length 71;
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RESULT 7
ABB96661
ID ABBS
XX ABB96661
ID ABB9
XX ABB9
XX Omes

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                                                                         The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective cardiovascular, antiinflammatory, antimigraine, antidiabetic, tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. Peptides of the invention act by modulating the activity of voltage gate ion channels. They may be used for treating or preventing disorders associated with voltage gated ion channels such as neurological disorders, e.g. seizure (associated with epilepsy), neurotoxic injury associated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analgesic agents of the invention show diminished side effects and toxicity, and are non-addictive. The sequences given in croords ABB96595-ABB96697 represent omega-conopeptide propeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 20
N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antiidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder psychosis; anxiety; schizophrenia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (UTAH )
(COGN-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New omega-conopeptides useful for voltage gated ion channels e.g. pacardiovascular disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Olivera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-JUL-2000;
05-FEB-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23-JUL-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO200207675-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Omega-conopeptide; analgesic; anticonvulsant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Omega-conopeptide Mn6.1 propeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Jacobsen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12-JUL-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2002-257318/30
DB; ABL98920.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1(c);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     n BM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        UNIV UTAH RES FOUND COGNETIX INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mcintosh
Jones RM,
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2001US-265888P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2001WO-US23041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            53;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         195pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JM, Watkins M, Cartier GE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            pain,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         treating disorder ain, inflammation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Garrett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           vasotropic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'n,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ropic; cardiant;
antiinflammatory;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          neurological or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Shon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cerebroprotective,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          epilepsy;
                                                                                                                                                                                                                                                                                                           injury
                                                                                                                                                                                                                                                                                                                                                                                            gated
                                                                                                                                             side
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Sequence

71

perinatal asphyxia or hypoglycaemic events;

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RESULT 8
ABB96609
ID ABB9
XX ABB96609
XX ABB9
AC ABB9
XX ABB96609
XX ABB96609
XX ABB96609
XX ABB96609
XX Omeg

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Best Loo
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      neurologica
stroke; cer
drowning; s
migraine; i
psychosis;
              The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antiinflammatory, antimigraine, antidiabetic, tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. Peptides of the invention act by modulating the activity of voltage gated ion channels. They may be used for treating or preventing disorders associated with voltage gated ion channels such as neurological disorders, e.g. seizure (associated with epilepsy), neurotoxic injury associated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2002
N-PSDB; A
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Jacobsen
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05-FEB-20
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                                                                                                                                                                                                                                                                                                                                                                                     Claim 1(c); Page 29; 195pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                             voltage gated ion channels cardiovascular disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New omega
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200207
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGSCRSGKCG 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAYNC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MKLTSVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSISTRCKSTGKSCSRIAYNC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  UNIV UTAH RES FOUND. COGNETIX INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a-conopeptides useful for treating disorders associated with gated ion channels e.g. pain, inflammation, neurological or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2-257318/30
ABL98869.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   92.6%;
Similarity 94.4%;
7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         675-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nopeptide Ay6.3 propeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SCRSGKCG 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mcintosh JM, Watkins M, Jones RM, Cartier GE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-219616P.
2001US-265888P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2001WO-US23041.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     71 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 350; DB 23;
Pred. No. 4.1e-30;
l; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Garrett JE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 71;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Shon K;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
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9

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RESULT 9
ABB96632
XX
AC ABB9
XX
AC ABB9
XX
DT 12-C
XX
DT 12-C
XX
OMEG
KW OMEG
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KW ANT
KW ANT
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KW MEU
KW BSTR
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OMEG
XX
OME
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   Query Ma
Best Loo
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        migraine; inflammation or cardiovascular disorders. They may also be for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analgesic agents of the invention show diminished effects and toxicity, and are non-addictive. The sequences given in records ABB96595-ABB96697 represent omega-conopeptide propeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antiidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder; psychosis; anxiety; schizophrenia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       АВВ96632;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABB96632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Omega-conopeptide Cn6.5
                                                                                                                                                                                                                                                                                                                                                                                                                (UTAH )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200207675-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21-JUL-2000;
05-FEB-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         23-JUL-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                New omega-conopeptides useful voltage gated ion channels encardiovascular disorders -
                                                                                                                                                                                                                                                                               WPI; 2002-257318/30
N-PSDB; ABL98891.
                                                                                                                                                                                                                                                                                                                                                 Jacobsen
The invention relates to isolated omega-conopeptides, nucleic sequences encoding them, and propeptide sequences. The activithe peptides of the invention may be described as, analyesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebrardiovascular, antiinflammatory, antimigraine, antidiabetic,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              \vdash
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGSCRSGKCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             consors.
                                                                                                                                           1(c);
                                                                                                                                                                                                                                                                                                                                                                                                                    UNIV UTAH
                                                                                                                                                                                                                                                                                                                                                  n BM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               71
                                                                                                                                           Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2001WO-US23041
                                                                                                                                                                                                                                                                                                                                                                                                                                          UTAH RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-219616P
2001US-265888P
                                                                                                                                                                                                                                                                                                                                                                       Mcintosh
                                                                                                                                                                                                                                                                                                                                                    Jones
                                                                                                                                                                                                                                                                                                                                                                                                                        INC
                                                                                                                                               39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            92.3%;
                                                                                                                                           195pp;
                                                                                                                                                                                                                                                                                                                                                    JM, Watkins
, Cartier GE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  propeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 349; Pred. No. 5.3e
1; Mismatches
                                                                                                                                                                                                                e.g.
                                                                                                                                             English
                                                                                                                                                                                                                                     for
                                                                                                                                                                                                                  pain,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                349;
No. 5.
                                                                                                                                                                                                                      treating disorders in, inflammation,
                                                                                                                                                                                                                                                                                                                                                                             ĭ
                                                                                                                                                                                                                                                                                                                                                                              Garrett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23;
                                                                                                                                                                                                                                                                                                                                                                                 JE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                  Shon
                                                                                                                                                                                                                    , associated with neurological or
                                                                                nucleic acid
e activity of
                                  cerebroprotective,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
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8888888888888888888888888888888888
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AAR38795
ID AAR38
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. peptides of the invention act by modulating the activity of voltage gated ion channels. They may be used for treating or preventing disorders associated with voltage gated ion channels such as neurological associated with conditions of hypoxia, anoxia, ischaemia, stroke, associated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. sufforatine; inflammation or cardiovascular disorders. They may also be used for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analgesic agents of the invention show diminished side records ABB96595-ABB96697 represent omega-conopeptide propeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tranquilise
Peptides of
ion channel
associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           effects and records ABI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     associated
disorders,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                schizophre
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       migraine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      suffocatio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAR38795;
                                                                                                                                                                                                                                                                                             Key
Region
                                                                                                                                                                                                                                                                                                                                                     Calcium channel; four loop; toxin; MVIIB; Conus magus; GVIA; neuror C. geographus; conotoxin; presynaptic; specificity; calcium target; cysteine; omega; framework; template domain.
                                                                                                                                                                                                                                                                                                                                                                                                   Conotoxin
                                                                                                                                                                                                                                                                                                                                                                                                                          22-FEB-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAR38795
                                                                                                                                                                                                                                                                                                                                 Conus magus.
                                                        acts as t
cysteine
                                                                                                                   WPI;
                                                                                                                                                                                                              18-APR-1
                                                                                                                                                                                                                                                             US523101
                                                                                                                                         Hillyard
                                                                                                                                                                                         18-APR-1
                                                                                                                                                                                                                                     27-JUL-1
                                                                                           Formation
                                                                                involves
                                                                                                                                                                 (UTAH )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MKLTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MKLTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGSCRSGKCG 71
                                                                                                                    199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                     on of cysteine-rich peptide of specified di:sulphide bonding forming pre:pro-peptide with N-terminal excised region which templates for directing di:sulphide bond formation in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3-249725/31.
                                                                                                                                                                                         991;
                                                                                                                                                                                                                991;
                                                                                                                                                                                                                                       993.
                                                                                                                                                                                                                                                             1-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CNRGKCG 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        imilarity
                                                                                                                                                                   UNIV UTAH.
                                                           -rich peptide
                                                                                                                                           DR,
                                                                                                                                                                                                                                                                                                                                                                                                   prepropeptide MVIIB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           71 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                      Column 8;
                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                             Olivera BM;
                                                                                                                                                                                          91US-0689693.
                                                                                                                                                                                                                91US-0689693.
                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                    /note= "Mature omega-toxin"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       86.5%;
                                     15pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 327; DB 23; Pred. No. 1.2e-27; 3; Mismatches 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 71;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
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The sequent channel

ences given in AAR38795-96 represent two examples of calcium four loop toxins. They are MVIIB from Conus magus and GVIA

Example

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RESULT 11
ABB96662
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local S
Matches 61
                                                           WPI; 200
N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           from C. geographus. These conotoxins target presynaptic calcium channels and have largely overlapping specificities for different calcium targets in neuronal tissue preparations. These peptides form a four loop folded toxin molecule with a specific arrangement cysteines referred to as the omega pattern. The cysteine frameworl of these two peptides differs only in the exact amino acid spacing of the two carboxy terminal inter-Cys domains. Beyond the similar of the framework the two peptides are remarkably divergent. Only in the cysteine framework the two peptides are remarkably divergent.
                                                                                                                                                                                                                                                                                                                                                                          Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; migraine; inflammation; cardiovascular disorder; psychiatric disorder
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of the two carboxy terminal inter-Cys domains. Beyond the similarity of the framework the two peptides are remarkably divergent. Only nine of the 21 non-Cys amino acids of the omega-GVIA are conserved in the omega-MVIIA. MVIIB and GVIA template domains are each 45 amino acids in length. They also show a >90% conservation of amino acid sequence with only 4 positions of amino acid non-identity. These two sequences illustrate the existence of two highly conserved template domains associated with two structurally dissimilar toxins.
New omega-conopeptides useful voltage gated ion channels e. cardiovascular disorders -
                                                                                                                       Olivera
                                                                                                                                                                                                                                                                                                        WO200207675-A2
                                                                                                                                                                                                                                                                                                                                                                 psychosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Omega-conopeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABB96662
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                                                                                                                                                                                                 21-JUL-2000;
05-FEB-2001;
                                                                                                                                                                                                                                                                                                                                    Conus
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                                                                                                                                                                                                                                            23-JUL-2001;
                                                                                                                                                                 (UTAH )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
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                                                           2002-257318/30
DB; ABL98921.
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                                                                                                                                                                                                                                                                                                                                    monachus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61;
                                                                                                                      BM,
                                                                                                                                                   UNIV UTAH RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        similarity 85.7%;
similarity 85.9%;
sl; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               standard;
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,
                                                                                                                                                                                                                                                                                                                                                                  anxiety;
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                                                                                                                                                                                                2000US-219616P
2001US-265888P
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                                                                                                                     Mcintosh
                                                                                                        Jones
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                                                                                                                                                                                                                                                                                                                                                                schizophrenia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entry)
                                                                                                        JM, Watkins
Cartier GE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 324; DB 14; Pred. No. 2.4e-27; Mismatches 8
             ġ
                              for
                                                                                                         GE;
              pain
             treating disorder in, inflammation,
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                                                                                                                      Garrett
                             disorders
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                                                                                                                      Shon
             associated with
neurological or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               two sequences
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                                                                                                                                                                                                                                                                                                                                                                                                                                         epilepsy;
                                                                                                                                                                                                                                                                                                                                                                                 disorder
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RESULT 12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antiinflammatory, antimigraine, antidiabetic, cardiovascular sectivity of voltage gated in channels or preventing disorders cassociated with voltage gated ion channels such as neurological disorders, e.g. seizure (associated with epilepsy), neurotoxic injury associated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. migraine; inflammation or cardiovascular disorders. They may also be used for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analgesic agents of the invention show diminished side effects and toxicity, and are non-addictive. The sequences given in cardiovascular omega-conopeptide propeptide
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Best I
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stroke; c
drowning;
(UTAH )
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                                                                                                        23-JUL-2
                                                                                                                                          31-JAN-2
                                                                                                                                                                             WO200207
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                                                                                                                                                                                                                                               psychosi:
                                                                                                                                                                                                                                                                migraine
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                                                   000;
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                                                                                                                                                                                                                                                           nopeptide; analgesic; anticonvulsant; vasotropic; cardiant; tective; cerebroprotective; cardiovascular; antiinflammatory; aine; antidiabetic; tranquiliser; vulnerary; antipsychotic; ic; neuroleptic; voltage gated ion channel; seizure; epilepsy; ical disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; cerebrovascular accident; brain trauma; spinal chord trauma; suffocation; perinatal asphyxia; hypoglycaemic event; pain; inflammation; cardiovascular disorder; psychiatric disorder;
COGNETIX INC
                                                                                                                                          002.
                                                                                                                                                                                                              gus.
                                                                                                                                                                                                                                                                                                                                                                                                                         nopeptide w-MVIIB propeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               002
                  UNIV UTAH RES FOUND.
                                                                                                                                                                             675-A2.
                                                                                                                                                                                                                                               s; anxiety; schizophrenia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SCNRGKCG 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SCRSGKCG 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  standard; Peptide; 71 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Page 54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                   2000US-219616P.
2001US-265888P.
                                                                                                        2001WO-US23041
                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                85.7%;
87.3%;
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Olivera

Mcintosh JM,

Watkins

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Garrett JE,

Shon

X

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RESULT 13
ABB96631
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D X Z X
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Best Local S
Matches 61
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                                                                                                                                                                                                                                                                              neuroprotective; cerebroprotective; cardiovascular; antimigraine; antidiabetic; tranquiliser; vulnerary; anxiolytic; neuroleptic; voltage gated ion channel; neurological disorder; neurotoxic injury; hypoxia; anstroke; cerebrovascular accident; brain trauma; spinalizatione.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Omega-conopeptide Cn6.4 propeptide.
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                                                                                                                                                                                                        drowning; suffocation; perinatal asphyxia; migraine; inflammation; cardiovascular dispsychosis; anxiety; schizophrenia.
                                                                                                                                                                                                                                                                                                                                                                                                            Omega-conopeptide;
                                                                                                                                                       Conus
                                                                                                     WO200207675-A2
                                                  31-JAN-2002
    23-JUL-2001;
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DB; ABL98918.
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ilarity 85.9%;
Conservative
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    2001WO-US23041
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                        analgesic;
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                                                                                                                                                                                                                              peurotoxic injury; hypoxia; aucant, aucant, accident; brain trauma; spinal chord trauma; accident; brain trauma; spinal chord trauma; perinatal asphyxia; hypoglycaemic event; pain perinatal asphyxia; hypoxia; aucant, aucan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    e.g.
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Pred. No. 8.2e-
2; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                              anticonvulsant; vasotropic;
ctive; cardiovascular; antii
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                                                                                                                                                                                                                                                                                                                       hypoxia; anoxia; ischaemia;
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8;
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antiinflammatory;
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                                                                                                                                                                                                                                                     nt; pain;
disorder;
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                                                                                                                                                                                                                                                                                                                       RESULT 14
ABB96624
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Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; stroke; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder psychosis; anxiety; schizophrenia.
                                                                                                                                                                                       Omega-conopeptide Cr6.1 propeptide.
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Peptides of the invention act by modulating the activity of voltage gated ion channels. They may be used for treating or preventing disorders associated with voltage gated ion channels such as neurological chasociated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, cardiovascular disorders. They may also be used migraine; inflammation or cardiovascular disorders. They may also be used for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analgesic agents of the invention show diminished side records ABB96595-ABB96697 represent omega-conopeptide propeptide

sequences.
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Jacobsen
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larity 80.3%;
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The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antiinflammatory, antimigraine, antidiabetic, tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. Peptides of the invention act by modulating the activity of voltage gated ion channels. They may be used for treating or preventing disorders associated with voltage gated ion channels such as neurological disorders, e.g. seizure (associated with epilepsy), neurotoxic injury associated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. migraine; inflammation or cardiovascular disorders. They may also be used for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analgesic agents of the invention show diminished side effects and toxicity, and are non-addictive. The sequences given in records ABB96595-ABB96697 represent omega-conopeptide propeptide
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3, Appli
12, Appl
13, Appl
19, Appl
20, Appl
13, Appl
14, Appli
17, Appli
11, Appl
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Sequence 14,	Sequence 14,	Sequence 14,	Sequence 14,	Sequence 14,	Sequence 14,	Sequence 12,	Sequence 12,	Sequence 12,	Sequence 12,	Sequence 12,	Sequence 12,	Sequence 12,	Sequence 12,	Sequence 12,	Sequence 5, 1	Sequence 10,	Sequence 35,
Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appl	Appli	Appl	Appl

ALIGNMENTS

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RESULT 1
US-07-689-693B-1
; Sequence 1, Application ...
; Patent No. 5231011
; GENERAL INFORMATION:
   APPLICANT: David Hillyard
; APPLICANT: Baldomero M. Olivera
; TITLE OF INVENTION: Segregated Folding Determinants
: TITLE OF INVENTION: for Small Disulfide-Rich Peptides
   TTTLE OF INVENTION: 525
   TTTLE OF SEQUENCES: 25
   TTTLE OF SEQUENCES: 5231011th & Western
   Suite 200
                                           US-07
                                                                                                                         OPERALLING
SOFTWARE: Word Periect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/689,6
FILING DATE: 19910418
CLASSIFICATION: 530
PRIOR APPLICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: none
FILING DATE: na
ATTORNEY/AGENT INFORMATION:
NAME: Western, M. Wayne
REGISTRATION NUMBER: 22,788
REFERENCE/DOCKET NUMBER: 9925
TELECOMMUNICATION INFORMATION:
TELEPHONE: (801) 566-6633
TELEFAX: (801) 566-0750
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 71 amino acids
TYPE: AMINO ACID
TOPOLOGY: linear
MOLECULE TYPE: peptide
 Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 25

CORRESPONDENCE ADDRESS:
ADDRESSEE: Thorpe, No. 52310
STREET: 9035 South 700 East,
CITY: Sandy
STATE: Utah
COUNTRY: USA
ZIP: 84070
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.5 i
COMPUTER: Compaq LTE/286
OPERATING SYSTEM: DOS 4.01
                                     MOLECULE TYPE: peptide

FEATURE:

NAME/KEY: Prepropeptide sequence for four-loop

NAME/KEY: MVIIB Omega conotoxin from Conus magus.

IDENTIFICATION METHOD: Libraries were created

IDENTIFICATION METHOD: using oligo-dT primed pUC1

7-689-693B-1
Match
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70: 9925
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RESULT
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NAME/KEY: GVIA Omega conotoxin from Conus geographus.
IDENTIFICATION METHOD: Libraries were created;
IDENTIFICATION METHOD: using oligo-dT primed pUC13 very.
US-07-689-693B-3
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Matches
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Patent No
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TELEPHONE: (801) 566-6633
TELEFAX: (801) 566-0750
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 73 amino acids
                                                                                                           Query
Best I
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SOFTWARE: Word Perfect 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: Se
TITLE OF INVENTION: fo
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette,
                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: |
FILING DATE: na
                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                    TOPOLOGY: 1
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CITY: :
STATE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                                                                                NAME: Western, M. Wayne REGISTRATION NUMBER: 22 REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: UFILING DATE: 19910418
                                                                                                                                                                                                                                               TYPE:
                       61
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                                                                                                                      Match
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CANT: David
                                                           MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAYNC 60
                        CTGSC
                                                MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALGSTTELSLSTRCKSPGSSCSPTSYNC
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Baldomero M. Olivera
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                                                                                                ore 259.5; DB 1; ed. No. 2.5e-21; Mismatches 9;
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LENGTH:
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STATE:
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FILING DATE: 17-APR-1995
ATTORNEY/AGENT INFORMATION:
NAME: Ihnen, Jeffrey L.
REGISTRATION NUMBER: 28,957
REFERENCE/DOCKET NUMBER: 2426
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-962-4810
TELEFAX: 202-962-8300
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING LALL.

CLASSIFICATION: 530

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/319,554

FILING DATE: 07-OCT-1994

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/423,561

PRIOR DATE: 17-APR-1995
                                                                                     Sequence 13, Application PC/TUS9605262 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
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Similarity 80.0%;
2; Conservative
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Grilley, Michelle M.
Olivera, Baldomero M.
INVENTION: Conotoxin Peptides
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739276
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                                                                                                                                                                                                                                                                                                                                                                                                TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                            73 amino acids amino acid
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: Venable, Baetjer, Howard & Civiletti
1201 New York Avenue N.W.
                                                                                                                                                                                     64
                              Shon, Ki-Joon
Grilley, Michelle M.
Olivera, Baldomero M.
Yoshikami, Doju
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Cruz, 1
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                                                                                                                                                                                                                                                                                                         score 259.5; DB 1;
Pred. No. 2.5e-21;
3; Mismatches 9;
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HYPOTHETICAL:
PCT-US96-05262-13
                                                                                                                                                                                                                                                          US-07-689-693B-19
                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: Saxe, Stephen A.
REGISTRATION NUMBER: 38,609
REFERENCE/DOCKET NUMBER: 2426
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-962-4848
TELEFAX: 202-962-8300
INFORMATION FOR SEQ ID NO: 13:
SEQUENCE CHARACTERISTICS:
LENGTH: 73 amino acids
                                                                                                                                                             Sequence 19, Application US/07689693B
Patent No. 5231011
GENERAL INFORMATION:
APPLICANT: David Hillyard
APPLICANT: Baldomero M. Olivera
TITLE OF INVENTION: Segregated Folirith For Small Dist
                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
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APPLICATION NUMBER: PCT/US96/05267

FILING DATE: 17-APR-1996

CLASSIFICATION:

PRIOR APPLICATION:

APPLICATION:

PRIOR APPLICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/423,561
FILING DATE: 17-APR-1995
ATTORNEY/AGENT INFORMATION:
NAME: Saxe, Stephen A.
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.5
COMPUTER: Compaq LTE/286
OPERATING SYSTEM: DOS 4.01
                                                                                                           NUMBER OF SEQUENCES: 25
CORRESPONDENCE ADDRESS:
ADDRESSEE: Thorpe, No.
STREET: 9035 South 700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE
ADDRESSEE: 1
                                                                                STREET:
CITY: S
STATE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                  Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
STRANDEDNESS: sir
                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                        CTGSC 65
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: Utah
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:R: 24260-107674
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                                                                                                           5231011th & East, Suite
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Pred. No. 2.
                            inch,
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Suite 1000
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US-07-689-693
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US-07-689-693B-19
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (801) 566-6633
TELEFAX: (801) 566-0750
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 20 Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
NAME: Western, M. Wayne
REGISTRATION NUMBER: 22,788
REFERENCE/DOCKET NUMBER: 9925
TELECOMMUNICATION INFORMATION:
TELEPHONE: (801) 566-6633
TELEFAX: (801) 566-0750
                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL
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NAME:
                                                                                                                                                     CURRENT APPLICATION DATA: APPLICATION NUMBER: US FILING DATE: 19910418
                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER:
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                                                                                    ATTORNEY,
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CITY: Sa
STATE: U
COUNTRY:
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OPERATING SYSTEM: DOS 4.01
SOFTWARE: Word Perfect 5.1
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                                                                                                                                      CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: Signal/Pro sequence for synthesis of NAME/KEY: four-loop MVIIB Omega conotoxin IDENTIFICATION METHOD: Libraries were created IDENTIFICATION METHOD: using oligo-dT primed pUC13 vector
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15; Conserv
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INVENTION:
F SEQUENCES:
                                                                                  AGENT INFORMATION:
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llarity 100.0%;
Conservative
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Baldomero M. Olivera
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22,788
997
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ER: 9925
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Pred. No. 3.4e-17;
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US-07-689-693B-5
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                                                                                                                                                                                                                                                                  ATTORNEI/AGENTATION M. Wayne NAME: Western, M. Wayne REGISTRATION NUMBER: 22,788 REFERENCE/DOCKET NUMBER: 9925 TELECOMMUNICATION INFORMATION: TELEPHONE: (801) 566-6633 TELEFAX: (801) 566-0750 INFORMATION FOR SEQ ID NO: 5: SEQUENCE CHARACTERISTICS: LENGTH: 78 amino acids Type: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Patent No. 5231011
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: Compag LTE/286
OPERATING SYSTEM: DOS 4.01
SOFTWARE: Word Perfect 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/
FILING DATE: 19910418
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: none
APPLICATION NUMBER: none
FILING DATE: na
ATTORNEY/AGENT INFORMATION:
NAME: WORT OF THE PRIOR NAME:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: David Hillyard APPLICANT: Baldomero M. Oli TITLE OF INVENTION: SegregaTITLE OF INVENTION: for Small NUMBER OF SEQUENCES: 25
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE:
FEATURE:
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MEDIUM TYPE: Diskett
COMPUTER: Compaq LTE
                                                                                                                                                                                                                                      MOLECULE TYPE:
                                                                                                                                                                                                             FEATURE:
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CITY: Sa
STATE: U
COUNTRY:
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                                                                                                          IDENTIFICATION IDENTIFICATION
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ilarity 91.1%;
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D: Libraries were created
D: using oligo-dT primed |
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                                                            Library was constructed using polyA selected mRNA from Conus textile venom of into the Okyama-Berg oligonal control of the Okyama-Berg oli
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                                                                mRNA transcripts purified mom duct tissue and cloned oligo-dT primed plasmid
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US-08-624-123-
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                                                                                                                      US-08-624-123
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                                                                                 Query Match
Best Local
                                                                                                                                                                                            INFORMATION FOR SEQUENCE CHARAC
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                                                                       Matches
                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/319,554
FILING DATE: 07-OCT-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/423,561
FILING DATE: 17-APR-1995
ATTORNEY/AGENT INFORMATION:
NAME: Ihnen, Jeffrey L.
REGISTRATION NUMBER: 28,957
REGISTRATION NUMBER: 28,957
                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: 28,957
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-962-4810
TELEFAX: 202-962-8300
INFORMATION FOR SEQ ID NO: 13:
SEQUENCE CHARACTERISTS
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                                                                                                                                  MOLECULE TYPE HYPOTHETICAL:
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                                                                                                                                                                   LENGTH: 78 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                           TOPOLOGY:
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  54
                                                                                              Match
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Similarity 40.3%;
29; Conservative
                         MKLTCVVIVAVLLLTACQLITADDSRG---
  SRIAYNCCTGSC 65
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M TYPE: Floppy disk
TER: IBM PC compatible
TING SYSTEM: PC-DOS/MS-DOS
ARE: PatentIn Release #1.0, 1
APPLICATION DATA:
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r: Olivera,
INVENTION:
                                                                    35.8%;
Similarity 40.3%;
9; Conservative 1
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739276
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                                                                                                                                                                                                                                                                                                                                                                                                                TION NUMBER:
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                                                                                                                                                TYPE:
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1201 New York Avenue N.W.
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Conotoxin Peptides
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; Pred. No. 5.8e-08;
12; Mismatches 24
                                                                         Score 135.5; DB 1;
Pred. No. 5.8e-08;
Pred. No. 5.8e-08;
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                                                    TQKHRALRSDTKLSMSTR-CKGTGKPC 53
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US-08-716-308-
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GENERAL INFORMATION:
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STATE: DE
COUNTRY: USA
ZIP: 19850
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE T
08-716-308-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE: 25-MAR-1994
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT,
FILING DATE: 27-MAR-199
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                                                                                                                         APPLICANT: Windass, TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
                                                                         NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: FILING DATE: 24-SE CLASSIFICATION: 42
STREET:
CITY: V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Hohenschutz, Liza D. REGISTRATION NUMBER: 33,71 REFERENCE/DOCKET NUMBER: F
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                                                                                                                                                                                                                                                                                                                                                                               61
                                                 ADDRESSEE:
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29; Conservative
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N: 424
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                                                                                                                                 Insect Control Agent
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No. 5.8e-08;
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GENERAL IN
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08-716-308
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APPLICANT:
APPLICANT:
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COMPUTER
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MEDIUM
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (302) 886-1699
IFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 78 amino
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APPLICATION NUMBER: PCT/GB95/00677
FILING DATE: 27-MAR-1995
PRIOR APPLICATION DATA:
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FILING
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                                             COMPUTER:
OPERATING
SOFTWARE:
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CITY:
STATE:
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FILING
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                      APPLIC.
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                                                                                                                                                                                                 OF SEQUENCES:
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                                                                                                           RY: U.S.A.
20005
                      READABLE FORM:
TYPE: Floppy disk
ER: IBM PC compatible
ING SYSTEM: PC-DOS/MS-DOS
RE: PatentIn Release #1.0, Version #1.30
APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        amino
GY: li
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SEE: Venable, Baetjer, Howard & Civiletti,
: 1201 New York Avenue, N.W., Suite 1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: Floppy disk
ER: IBM PC compatible
ING SYSTEM: PC-DOS/MS-DOS
RE: PatentIn Release #1.0, Version #1.25
APPLICATION DATA:
          ATION NUMBER: PCT/US96/05262
DATE: 17-APR-1996
                                                                                                                                                Washington
                                                                                                                                                                                                                                                                                                                , Application PC/TUS9605262 FORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                  35.8%;
Similarity 40.3%;
9; Conservative 1;
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DATE: 25-MAR-1994
/AGENT INFORMATION:
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DATE: 24-SEP-1996
FICATION:
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Cruz, Lourdes J.
Hillyard, David R.
Hillyard, Conotoxin Peptides
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Grilley, Michello
Olivera, Baldomes
Yoshikami, Doju
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Baldomero M.
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Pred. No. 5.8e-08;
2; Mismatches 24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 78;
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ATTORNEY/AGENT

APPLICATION NUMBER:

NUMBER: US 08 17-APR-1995 INFORMATION:

08/423,561

Stephen A.

APPLICATION DATA:

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US-08-716-308-17
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Best Local S
Matches 29
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: 24
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-962-4848
TELEFAX: 202-962-8300
INFORMATION FOR SEQ ID NO: 14:
                                                                                         CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/GE
FILING DATE: 27-MAR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 940
FILING DATE: 25-MAR-1994
ATTORNEY/AGENT INFORMATION:
             INFORMATION FOR SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS: LENGTH: 78 amino acids
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MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HYPOTHETICAL:
                                                                                                                                                                                                                                                                                        ZIP: 19850
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
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                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
                                         TELECOMMUNICATION INFORMATION:
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Saxe, Stephen REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRANDEDNESS:
                                                                                                                                                                                                                                               COMPUTER: IBM PC
OPERATING SYSTEM:
SOFTWARE: Patent
                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
                                                    NAME: Hohenschutz, Liza D. REGISTRATION NUMBER: 33,712 REFERENCE/DOCKET NUMBER: PP
                                                                                                                                                                                                        APPLICATION |
FILING DATE:
                                                                                                                                                                                                                                                                                                                                COUNTRY:
                                                                                                                                                                                                                                                                                                                                                STATE:
                            TELEPHONE:
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                                                                                                                                                                                                                                                                                                                                                           Wilmington
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CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                        E: ZENECA Inc.
1800 Concord Pike
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                 USA
                                                                                                                                                                                                                                                                                                                                                                                                                                           Windass,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                                                              IBM PC compatible SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                  PatentIn Release #1.0,
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NO
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                                                                                                                                                                                                                        NUMBER:
                           (302) 886-1699
                                                                                                                                                                                                                                                                                         Floppy disk
                                                                                                                                                                                                        JMBER: US/08/716,308
24-SEP-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     single
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                                                                                                                                                                                                                                                                                                                                                                                                                              Biological
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WOLECULE 708-716-308-
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US-07-689-693B
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Sequence./, ...
Patent No. 52
                                                     US-07-689-693B-
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Matches
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                                                                                                                                                                                                 NAME: Western, M. Wayne
REGISTRATION NUMBER: 22,788
REFERENCE/DOCKET NUMBER: 9925
TELECOMMUNICATION INFORMATION:
TELEPHONE: (801) 566-6633
TELEFAX: (801) 566-0750
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
LENGTH: 77 amino acids
TYPE: AMINO ACID
               Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE: Diskette, 3.5 i
COMPUTER: Compaq LTE/286
OPERATING SYSTEM: DOS 4.01
SOFTWARE: Word Perfect 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 2
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h 35.4%;
Similarity 39.4%;
28; Conservative
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GY: li
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4070
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David Hillyard
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231011
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                                                                                                                                                                                                                                                                                                                                                          TION NUMBER:
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N: 530
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Segregated Folding Determinants
for Small Disulfide-Rich Peptides
25
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                                                                  Library was constructed using polyA selected mRNA transcripts purified from Conus textile venom duct tissue and cloned into the Okyama-Berg oligo-dT primed plasmid pSV7186.
                                                                                                                                                   sequence for four loop
      10;
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      Score 134; DB 1;
Pred. No. 8.4e-08;
D; Mismatches 27;
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                                 Length 77;
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        Indels
        6;
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         Gaps
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RESULT 15
US-08-496-847-11
; Sequence 11, Application; Patent No. 5795864
; GENERAL INFORMATION:
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US-08-049-794-11
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TUSTICE
                                                                                                                                                                  Query Match 33.9
Best Local Similarity 76.9
Matches 20; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 94306
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, V
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: 58
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 324-0880
TELEFAX: (415) 324-0960
INFORMATION FOR SEQ ID NO: 11:
                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/
FILING DATE: 19930415
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/
FILING DATE: 30-DEC-1991
ATTORNEY/AGENT INFORMATION:
NAME: Stratford, Carol A.
REGISTRATION NUMBER: 34,44
                                                                                                                                                                                                                                                        TOPOLOGY: lin
MOLECULE TYPE:
HYPOTHETICAL: N
ORIGINAL SOURCE:
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APPLICANT:
APPLICANT:
APPLICANT:
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APPLICANT: MILJANICH, GEORGE P
TITLE OF INVENTION: METHODS OF PRODUCING ANALGESIA AND
TITLE OF INVENTION: ENHANCING OPIATE ANALGESIA
NUMBER OF SEQUENCES: 34
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
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STREET: 350 Cambridge /
CITY: Palo Alto
STATE: CA
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                                                                                                                                                                                                                                                                                                                     TYPE:
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                    1, Application 5795864
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TEJINDER
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                                  US/08496847
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                                                                                                                                                                                                                                                                                                                                                                                                                                   34,444
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Avenue, Suite 300
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80,
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                                                                                                                                                                 Score 128; DE Pred. No. 1.26
2; Mismatches
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                                                                                        US-08-496-847
                                                       Best
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                                                                Query Match
                                                                                                                                                                                       CLASSIFICATION: 51*
ATTORNEY/AGENT INFORMATION:
NAME: Stratford, Carol A
REGISTRATION NUMBER: 34,444
REFERENCE/DOCKET NUMBER: 5865
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-324-0880
TELEFAX: 650-324-0960
                                                                                                                                                                  TELEFAX: 650-324-0960
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
                                                                                                                       TOPOLOGY: linear MOLECULE TYPE
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OPERATING
SOFTWARE:
CURRENT APPL
APPLICATIC
FILING DAT
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STATE:
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CKGTGKPCSRIAYNCCTGSCRSGKCG
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                                         33.9%;
Similarity 76.9%;
O; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                   94306-1546
                                                                                                                                                                                                                                                                                                                                                                                                                                                     F SEQUENCES: 3
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                                                                                                             SOURCE:
                                                                                                                         TYPE: protein CAL: NO
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Bowersox, Stephen S.
Gohil, Kishorchandra
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METHODS AND
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                                                                                                 SNX-193,
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                                                      Score 128;
Pred. No. 1.
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1: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
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6: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
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Sequence 71, Appl Sequence 110, App Sequence 111, App Sequence 13, Appl Sequence 152, App Sequence 152, App Sequence 167, App Sequence 2, Appl Sequence 167, Appl Sequence 167, Appl Sequence 170, Appl Sequence 170, Appl Sequence 170, Appl Sequence 333, App Sequence 333, App Sequence 360, Appl Sequence 164, Appl Sequence 59, Appl Sequence 59, Appl

ALIGNMENTS

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; SOFTWARE: PatentIn version 3.; SEQ ID NO 408; LENGTH: 77; TYPE: PRT; ORGANISM: Conus striolatus US-09-749-637A-408
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US-09-749-637A-408
; Sequence 408, App
; Patent No. US2002
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FILLE OF INVENTION: O-Superfamily Conotoxin Peptides
FILE REFERENCE: 2314-227
CURRENT APPLICATION NUMBER: US/09/749,637A
CURRENT FILING DATE: 2000-12-28
PRIOR APPLICATION NUMBER: US 60/243,412
PRIOR FILING DATE: 2000-10-27
PRIOR APPLICATION NUMBER: US60/219,440
PRIOR APPLICATION NUMBER: US 60/214,263
PRIOR FILING DATE: 2000-06-26
PRIOR FILING DATE: 1999-12-30
NUMBER OF SEQ ID NOS: 409
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Matches 44
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LTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAYNC 60
                                                                                                                                                                                                                                       SEQ ID NOS: 409 PatentIn version
                                                                       similarity 67. 4; Conservative
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McIntosh, J. Michael
Layer, Richard T.
Jones, Robert M.
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Cartier, G. Edward
Watkins, Maren
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67.7%;
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Pred. No. 1.5e-14;
3; Mismatches 17;
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RESULT 2 US-09-749-637A-207

Sequence

GENERAL Patent No.

INFORMATION:

207, Application | . US20020173449A1

Application US/09749637A

APPLICANT: APPLICANT:

Cognetix,

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APPLICANT: Jones, Robert M.
FITTLE OF INVENTION: O-Superfamily Conotoxin Perile Reference: 2314-227
CURRENT APPLICATION NUMBER: US/09/749,637A
CURRENT FILING DATE: 2000-12-28
PRIOR APPLICATION NUMBER: US 60/243,412
PRIOR FILING DATE: 2000-10-27
PRIOR APPLICATION NUMBER: US60/219,440
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APPLICANT: Jones, Robert M.
TITLE OF INVENTION: O-Superfamily Control Application: 2314-227
CURRENT APPLICATION: CONTROL APPLIC
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SEQ ID NO 207
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CURRENT FILING DATE: 2000-12-28
PRIOR APPLICATION NUMBER: US 60/243,412
PRIOR FILING DATE: 2000-10-27
PRIOR APPLICATION NUMBER: US60/219,440
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McIntosh, J. Michael
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Jones, Robert M.
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                                                                                                      ORGANISM:
US-09-749-637
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OR APPLICATION NUMBER: US 00,

OR FILING DATE: 2000-06-26

APPLICATION NUMBER: US 60/173,754

PATE: 1999-12-30
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Similarity 43.7%;
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Similarity 42.3%;
O; Conservative
 TCVVIVAVLFLTAWTFATADDPRNGLENLFSKAHHEMKNPEASKLNKRCPNTGELCD 60
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Layer, Richard T.
Jones, Robert M.
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G. Edward
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Pred. No. 4.7e-08;
9; Mismatches 25
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Pred. No. 1.2e-07;
); Mismatches 26
                          -TQKHRALRSDTKLSMSTRCKGTGKPCS 54
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PRIOR APPLICATION NUMBER: US60/219,440
PRIOR FILING DATE: 2000-07-20
PRIOR APPLICATION NUMBER: US 60/214,263
PRIOR FILING DATE: 2000-06-26
PRIOR APPLICATION NUMBER: US 60/173,754
PRIOR FILING DATE: 1999-12-30
NUMBER OF SEQ ID NOS: 409
SOFTWARE: Patentin version 3.0
SEQ ID NO 330
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US-09-7
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APPLICANT: Layer, Richard T.
APPLICANT: Jones, Robert M.
TITLE OF INVENTION: O-Superfamily Conotoxin Pe
FILE REFERENCE: 2314-227
CURRENT APPLICATION NUMBER: US/09/749,637A
CURRENT FILING DATE: 2000-12-28
PRIOR APPLICATION NUMBER: US 60/243,412
PRIOR FILING DATE: 2000-10-27
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     TITLE OF INVENTION: O-Superfamily Conotoxin Perile Reference: 2314-227

CURRENT APPLICATION NUMBER: US/09/749,637A

CURRENT FILING DATE: 2000-12-28

PRIOR APPLICATION NUMBER: US 60/243,412

PRIOR APPLICATION NUMBER: US60/219,440

PRIOR FILING DATE: 2000-07-20

PRIOR APPLICATION NUMBER: US 60/214,263

PRIOR FILING DATE: 2000-06-26

PRIOR APPLICATION NUMBER: US 60/173,754

PRIOR FILING DATE: 1999-12-30
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TYPE: PRT
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US20020173449A1
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Similarity 42.3%;
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LENGTH: 77
TYPE: PRT
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PRIOR APPLICATION NUMBER: US 60/243,412
PRIOR FILING DATE: 2000-10-27
PRIOR APPLICATION NUMBER: US60/219,440
PRIOR FILING DATE: 2000-07-20
PRIOR APPLICATION NUMBER: US 60/214,263
PRIOR FILING DATE: 2000-06-26
PRIOR APPLICATION NUMBER: US 60/173,754
PRIOR FILING DATE: 1999-12-30
NUMBER OF SEQ ID NOS: 409
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                         RIAYNCCTGSC 65
                                                     MKLTCMMIVAVLFLTAWTFATADDPRNGLGNIFSNAHHEMKNPEASKLNKRCRLGAESCD 60
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Similarity 42.3%;
O; Conservative
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US20020173449A1
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Olivera, Baldomero l
Cartier, G. Edward
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Hillyard,
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Layer, Richard T.
Jones, Robert M.
                                                                                                        36.8%; Score 139; DB 9; llarity 39.4%; Pred. No. 3e-07; Conservative 12; Mismatches 25;
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12; Mismatches 23
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RESULT 8 US-09-749-637A-86

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Sequence 8
Patent No.
GENERAL IN

86, Application US/09749637A to US20020173449A1 ...

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APPLICANT: Layer, Richard T.

APPLICANT: Jones, Robert M.

TITLE OF INVENTION: O-Superfamily Conotoxin F

FILE REFERENCE: 2314-227

CURRENT APPLICATION NUMBER: US/09/749,637A

CURRENT FILING DATE: 2000-12-28

PRIOR APPLICATION NUMBER: US 60/243,412

PRIOR APPLICATION NUMBER: US 60/243,412

PRIOR APPLICATION NUMBER: US 60/219,440

PRIOR FILING DATE: 2000-07-20

PRIOR APPLICATION NUMBER: US 60/214,263

PRIOR APPLICATION NUMBER: US 60/214,263

PRIOR APPLICATION NUMBER: US 60/214,263

PRIOR APPLICATION NUMBER: US 60/173,754

PRIOR FILING DATE: 1999-12-30

NUMBER OF SEQ ID NOS: 409

SOFTWARE: Patentin version 3.0
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US-09-749-637A-26
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APPLICANT: Jones, Robert M.
TITLE OF INVENTION: O-Superfamily Conotoxin Perile Reference: 2314-227
CURRENT APPLICATION NUMBER: US/09/749,637A
CURRENT FILING DATE: 2000-12-28
PRIOR APPLICATION NUMBER: US 60/243,412
PRIOR FILING DATE: 2000-10-27
PRIOR APPLICATION NUMBER: US60/219,440
PRIOR FILING DATE: 2000-07-20
PRIOR APPLICATION NUMBER: US 60/214,263
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LENGTH: 80
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PRIOR APPLICATION NUMBER: US OPRIOR FILING DATE: 1999-12-30
NUMBER OF SEQ ID NOS: 409
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US20020173449A1
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Cartier, G. Edward
Watkins, Maren
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Olivera, Baldomero M.
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McIntosh, J. Mic
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                                                                                                   NUMBER: US 60/214,263
2000-06-26
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Richard T.
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No. 3.1e-07;
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FILE REFERENCE: 2314-227

CURRENT APPLICATION NUMBER: US/09/749,637A

CURRENT FILING DATE: 2000-12-28

PRIOR APPLICATION NUMBER: US 60/243,412

PRIOR APPLICATION NUMBER: US60/219,440

PRIOR FILING DATE: 2000-07-20

PRIOR APPLICATION NUMBER: US 60/214,263

PRIOR APPLICATION NUMBER: US 60/214,263

PRIOR APPLICATION NUMBER: US 60/173,754

PRIOR FILING DATE: 1999-12-30

NUMBER OF SEQ ID NOS: 409
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                                                          Sequence 65, Application US/09749637A Patent No. US20020173449A1 GENERAL INFORMATION:
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US20020173449A1
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      University of Utah Research
Cognetix, Inc.
Olivera, Baldomero M.
Cartier, G. Edward
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Layer, Richard T.
Jones, Robert M.
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nilarity 41.7%;
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G. Edward
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US-09-749-637A-22
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CURRENT FILING DATE: 2000-12-28
PRIOR APPLICATION NUMBER: US 60/243,412
PRIOR FILING DATE: 2000-10-27
PRIOR APPLICATION NUMBER: US60/219,440
PRIOR FILING DATE: 2000-07-20
PRIOR APPLICATION NUMBER: US 60/214,263
PRIOR FILING DATE: 2000-06-26
                                                                                                                                              TITLE OF INVENTION: O-Superfamily Conotoxin Pe
FILE REFERENCE: 2314-227
CURRENT APPLICATION NUMBER: US/09/749,637A
CURRENT FILING DATE: 2000-12-28
PRIOR APPLICATION NUMBER: US 60/243,412
PRIOR FILING DATE: 2000-10-27
PRIOR APPLICATION NUMBER: US60/219,440
PRIOR FILING DATE: 2000-07-20
PRIOR APPLICATION NUMBER: US 60/214,263
PRIOR FILING DATE: 2000-06-26
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09-749-637A-65
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PRIOR APPLICATION NUMBER: US 60/173,754
PRIOR FILING DATE: 1999-12-30
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                                    LENGTH: 78
TYPE: PRT
ORGANISM: CC
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Layer, Richard T.
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PLICANT: Jones, Robert M.
FLE OF INVENTION: O-Superfamily Conotoxin Peptides
LE REFERENCE: 2314-227
RENT APPLICATION NUMBER: US/09/749,637A
RENT FILING DATE: 2000-12-28
OR APPLICATION NUMBER: US 60/243,412
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                                                                                                                                       INFORMATION:
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PRIOR APPLICATION NUMBER: US 60/243,412
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PRIOR APPLICATION NUMBER: US60/219,440
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PRIOR APPLICATION NUMBER: US 60/173,754
PRIOR APPLICATION NUMBER: US 60/173,754
PRIOR FILING DATE: 1999-12-30
NUMBER OF SEQ ID NOS: 409
SOFTWARE: Patentin version 3.0
SEQ ID NO 321
LENGTH: 76
TYPE: PRT
ORGANISM: Conus caracteristicus
US-09-749-637A-321
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APPLICANT: Layer, Richard T.
APPLICANT: Layer, Richard T.
APPLICANT: Jones, Robert M.
APPLICATION NUMBER: US/09/749,637A
CURRENT FILING DATE: 2000-12-28
PRIOR FILING DATE: 2000-10-27
PRIOR FILING DATE: 2000-07-20
PRIOR APPLICATION NUMBER: US 60/214,263
PRIOR FILING DATE: 2000-06-26
PRIOR FILING DATE: 1909-12-30
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STRAIN=CSTRH_1_3;

Duda T.F., Palumbi S.R.;

Puda T.F., Palumbi S.R.;

Molecular evolution of four-loop conotoxin precursors from eating Conus.";

eating Conus.";

Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases.

EMBL; AF174242; AAF89906.1; -.

REMBL; AF174242; AAF89906.1; -.

REMBL; AF174242; AAF89906.1; -.

REMBL; AF174242; AAF89906.1; -.

REMBL; AF174242; Conotoxin.

Pfam; PF02950; Conotoxin; 1.

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SEQUENCE 66 AA; 7019 MW; 89B89B7AF1A7C7B3 CRC64;
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NCBI_TaxID=6493;
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a; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
opoda; Conoidea; Conidae; Conus.
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Submitted (AUG-1999) to the EMBL; AF174243; AAF89907.1;
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STRAIN=CSTRH_1_6;
Duda T.F., Palumbi S.I
"Molecular evolution of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    U1-OCT-2000 (TrEMBLrel. 15, Created)
01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
Four-loop conotoxin (Fragment).
Conus striatus (Striated cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=6493;
[1]
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Q9N6N6;
Q9N6N6;
01-OCT-2000
01-OCT-2000
01-JUN-2002
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SEQUENCE
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23; Conservative
                                                                                                                                                                                                                                                                                                                                                          sh 92.8%;
Similarity 92.0%;
23; Conservative
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   (TrEMBLrel.
(TrEMBLrel.
(TrEMBLrel.
                                                                                                             PRELIMINARY
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7.1;
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Conidae; Conus.
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          15,
15,
21,
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Last sequence
Last annotation
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Pred.
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       Created)
Last sequence update)
Last annotation updat
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Pred. No. 7.2e
0; Mismatches
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.2e-14;
2;
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RESULT
Q9NCV4
ID Q9
AC Q
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   RESULT
Q9NCV0
ID QS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; AF17
HSSP; P054
InterPro;
Pfam; PF02
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"Molecular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Four-loop conotoxin precursor (Fragment). Conus striatus (Striated cone). Eukaryota; Metazoa; Mollusca; Gastropoda; Neogastropoda; Conoidea; Conidae; Conus.
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Neogastropoda; C
NCBI_TaxID=6493;
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Q9NCV4;
Q9NCV4;
Q9NCV4;
O1-OCT-2000 (TrEMBLrel. 15, Created)
O1-OCT-2000 (TrEMBLrel. 15, Last sequence update)
O1-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Four-loop conotoxin (Fragment).
Conus striatus (Striated cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=6493;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         [1]
SEQUENCE
STRAIN-CS
                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; Pfam; PFC NON_TER
  Q9NCV0
Q9NCV0;
Q1-QCT-20
Q1-QCT-20
Q1-JUN-20
Four-loop
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Duda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              eating Conus.";
Submitted (AUG-1999) to the EMBL/GenBank/DDBJ
EMBL; AF174241; AAF89905.1; -.
HSSP; P05484; 1MVI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Molecul
                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
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                                                                                                                                                                                                                               CKGTGKPCSRIAYNCCTGSCRSGKC 25
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2000 (TrEMBLrel. 15, Created)
2000 (TrEMBLrel. 15, Last sequence update)
2002 (TrEMBLrel. 21, Last annotation update)
op conotoxin (Fragment).
triatus (Striated cone).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FROM N.A. STRH_1_2;
                                                                                                                                                                                                                                                                                                              87.6%;
Similarity 88.0%;
2; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ., Palumbi S.R.; ar evolution of four-loop conotoxin precursors
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (AUG-1999) to the EMBL/GenBank/DDBJ databases 74244; AAF89908.1; -. 74240; AAF89904.1; -.
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, Palumbi S.R.;
r evolution of four-loop conotoxin precursors
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; Conservative
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                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                      AA;
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                                                                                                                                                                                                                                                                                                                                                                                                         6980 MW;
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Pred. No. 1.1e-12;
); Mismatches 3;
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                                                                                                                                                                                                                                                                                                                                          Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                         286F491D7CA7DA05 CRC64;
                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                      ore 134; DB 5; Length 66; ed. No. 1.1e-12; Mismatches 3; Indels
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OgnCU1;
1 Q9NCU1;
1 Q9NCU1;
1 O1-OCT-2000 (TrEMBLrel. 15, Last sequency of the contoxin (Fragment).
2 Conus striatus (Striated cone).
3 Conus striatus (Striated cone).
4 Conus striatus (Striated cone).
5 Conus striatus (Striated cone).
6 Eukaryota; Metazoa; Mollusca; Gastropoda; Ca Neogastropoda; Conoidea; Conidae; Conus.
7 NCBI_TaxID=6493;
7 RP SEQUENCE FROM N.A.
7 RC STRAIN=CSTRH_R_1;
7 RA Duda T.F., Palumbi S.R.;
7 Palumbi S.R.;
8 Puda T.F., Palumbi S.R.;
8 Puda T.F., Palumbi S.R.;
8 Puda T.F., Palumbi S.R.;
9 Puda T.F., Palumbi S.R.;
1 Interpro; IPR004214; Conotoxin.
1 NR Interpro; IPR004214; Conotoxin; 1.
1 NR Interpro; IPR004214; Conotoxin; 1.
     RESULT
Q9N633
ID QS
AC QS
DT 01
DT 01
DT 01
OC EC
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Q9NCU1
ID Q9
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SEQUENCE FROM N.A.
STRAIN=CSTRH_1_7; Duda T.F., Palumbi S.R.; "Molecular evolution of foureating Conus."; Submitted (AUG-1999) to the EMBL; AF174246; AAF89910.1; -HSSP; P05484; IMVI.
InterPro; IPR004214; Conotoxi Pfam; PF02950; Conotoxin; 1.
NON_TER 1 1 1 SEQUENCE 66 AA; 6981 MW;
Four-loop conotoxin precus
Conus catus.
Eukaryota; Metazoa; Mollus
Neogastropoda; Conoidea; (
NCBI_TaxID=101291;
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precursor (Fragment).
                                                                 Mollusca;
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NCBI_TaxID=101291;
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SEQUENCE FROM N.A.
STRAIN=CCATH_1II_9, AND CO
Duda T.F., Palumbi S.R.;
"Molecular evolution of for eating Conus.";
Submitted (AUG-1999) to the contract of t
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STRAIN=CCATH_1I_6, CCATH_1I_1, AND CCATH_1I_2;
Duda T.F., Palumbi S.R.;
"Molecular evolution of four-loop conotoxin precursors
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                                               Metazoa; Mollusca;
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Pred. No. 2e-09;
3; Mismatches
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Pred.
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                                               Gastropoda;
                                                                                                                                                                                                          PRT;
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Mismatches
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                                              Caenogastropoda;
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RESULT
Q9NCW6
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Q9NCW5
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OC OS E D D D AC I
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Best Loc
Matches
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eating Conus.";
submitted (AUG-1999) to the E
EMBL; AF174228; AAF89885.1; -
EMBL; AF174221; AAF89886.1; -
EMBL; AF174222; AAF89886.1; -
EMBL; AF174224; AAF89888.1; -
EMBL; AF174225; AAF89889.1; -
HSSP; P05484; 1MVI.
InterPro; IPR004214; Conotoxi
Pfam; PF02950; Conotoxin; 1.
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Matches
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SEQUENCE FROM N
STRAIN-VARIOUS
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STRAIN=CCATH_1I_3;
Duda T.F., Palumbi S.R.;
PMOlecular evolution of fou eating Conus.";
Submitted (AUG-1999) to the EMBL; AF174216; AAF89880.1;
HSSP; P05484; 1MVI.
InterPro; IPR004214; Conoto Pfam; PF02950; Conotoxin; 1
NON_TER 1 1
SEQUENCE 66 AA; 7023 MW;
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Q9NCW6;
Q9NCW6;
01-OCT-2000 (TrEMBLre
01-OCT-2002 (TrEMBLre
01-JUN-2002 (TrEMBLre
Four-loop conotoxin (
Conus catus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NON_TER
Four-loop conotoxin (Conus catus.
Eukaryota; Metazoa; Neogastropoda; Conoic
                                    Q9NCW5;
Q9NCW5;
Q1-QCT-2000 (
Q1-JUN-2002 (
                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Mollusca; Gastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=101291;
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Similarity 68.0%;
17; Conservative
                                                                                                                                                              h 73.2%;
Similarity 68.0%;
17; Conservative
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 Metazoa; Mollusca; Gastropoda;
oda; Conoidea; Conidae; Conus.
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                                      (TrEMBLrel. (TrEMBLrel. (TrEMBLrel.
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                                                                              PRELIMINARY;
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                               (Fragment)
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21,
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15,
21,
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                                         sequence update)
annotation update)
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No.
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e-09;
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             Caenogastropoda;
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Q9NCW3
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Best Local
Matches
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Submitted (ATC)
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Best Loc
Matches
                                     Q9NCW2;
Q9NCW2;
Q9NCW2;
Q1-OCT-2000 (TrEMBLrel. 15, Crear, 01-OCT-2000 (TrEMBLrel. 21, Last 01-JUN-2002 (TrEMBLrel. 21, Last pour-loop conotoxin (Fragment).
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HSSP; P0548
InterPro; I
Pfam; PF029
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NON_TER
SEQUENCE
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Q9NCW3;
Q1-OCT-2000 (
Q1-OCT-2000 (
Q1-JUN-2002 (
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Neogastrop
NCBI_TaxII
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Conus catu
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SEQUENCE
STRAIN=CC
                                                                                                                                                                                                                                     Pfam; PFO
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                  eating Conus.";
Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases
EMBL; AF174220; AAF89884.1; -.
HSSP; P05484; 1MVI.
InterPro; IPR004214; Conotoxin.
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Neogastropoda; Conoidea;
NCBI_TaxID=101291;
[1]
SEQUENCE FROM N.A.
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17
                                                                                                                                                         TGKPCSRIAYNCCTGSCRSGKC 25
                                                                                                                                                                                               73.2%;
Similarity 68.0%;
7; Conservative
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CATH_1I_7;

Palumbi S.R.;

evolution of four-loop conotoxin precursors
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                                                                                                                                                                                                                                                                                                         nus."
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D=101291;
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0 (TrEMBLrel. 15, Last
2 (TrEMBLrel. 21, Last
conotoxin (Fragment).
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                                                                                                                                                                                                                                                                                                                                                                                        Metazoa;
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                                                                                                                                                                                                                                        AA;
                                                                                                                                                                                                                                                           Conotoxin; 1
                                                                                                                                                                                                                                        7054 MW;
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idea; Conidae; Conus.
                                Mollusca; Gastropoda;
idea; Conidae; Conus.
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Last sequence update)
Last annotation update)
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Pred. No. 2e-09;
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E445338A7939E4A8 CRC64;
                                                                                                                                                                                                    ω
                                                                     Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                            Score 112; DB 5;
pred. No. 2e-09;
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                                            Caenogastropoda;
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RESULT 15
Q9NCW4
ID Q9NCW
AC Q9NCW
DT Q1-OC
DT Q
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                                                                                                                                                                                  Query Match 72.5%;
Best Local Similarity 68.0%;
Matches 17; Conservative
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Best Local Similarity 68.0%;
Matches 17; Conservative
                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.

STRAIN=CCATH_1I_5;

Duda T.F., Palumbi S.R.;

"Molecular evolution of four-loopeating Conus.";

eating Conus.";

Submitted (AUG-1999) to the EMBL;

EMBL; AF174218; AAF89882.1; -.

HSSP; P05484; 1MVI.

InterPro; IPR004214; Conotoxin.

Pfam; PF02950; Conotoxin; 1.
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Pfam; PF02950;
NON_TER 1
SEQUENCE 66 A
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Q9NCW4;
Q9NCW4;
01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Four-loop conotoxin (Fragment).
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Neogastropoda; Conoidea;
NCBI_TaxID=101291;
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Idea; Conidae; Conus.
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                        2003,
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Pred.
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Pred. No. 2e-09;
3; Mismatches
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No. 2.8e-09;
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ALIGNMENTS

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AC ABB96833;
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AC ABB96833;
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DT 12-JUL-20
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DT 12-JUL-20
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Omega-con
KW Omega-con
KW neuroprot
KW antimigra
KW anxiolyti
KW anxiolyti
KW migraine;
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PD 31-JAN-20
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PF 23-JUL-20
PF 23-JUL-20
PR 05-FEB-20
XX
PA (UTAH) U
PA (COGN-) C
                                                                                                                                                                                                                                                                           Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder;
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2001US-265888P.
                                                                                                                2001WO-US23041.
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RESULT 2
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Jacobsen
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RESULT 3
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OGNETIX INC.
                                                                                                                                     nsors.
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                                                                                                                                                                                                                                                                                                                                                                                                                                   standard; Peptide;
                                                                                                                                                                      anxiety;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                      schizophrenia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Score 153; DB 23; 100.0%; Pred. No. 1.6e-10; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                       71 AA
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31-JAN-2002.

23-JUL-2001;

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2000US-219616P

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   c anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective cardiovascular, antiinflammatory, antimigraine, antiidiabetic, tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.

C peptides of the invention act by modulating the activity of voltage gate cion channels. They may be used for treating or preventing disorders cassociated with voltage gated ion channels such as neurological disorders, e.g. seizure (associated with epilepsy), neurotoxic injury cassociated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. migraine; inflammation or cardiovascular disorders. They may also be use for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analgesic agents of the invention show diminished side effects and toxicity, and are non-addictive. The sequences given in records ABB96595-ABB96697 represent omega-conopeptide propeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 25
                                                                       neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsyneurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder; psychosis; anxiety; schizophrenia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invent sequences the peptic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Olivera E
Jacobsen
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N-PSDB;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New omega-conopeptides useful voltage gated ion channels e.cardiovascular disorders -
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                                                                                                                                                                                                                             Omega-conopeptide M6.1 propeptide.
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                                                           Conus
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25; Conservative
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Jones RM,
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                                                                                                                                                                                                                                                                                                              Peptide;
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, Cartier GE;
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Pred. No. 3.7
; Mismatches
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9 0;
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RESULT 5
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DT 12-JUL-20
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DE Omega-con
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Omega-con
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antiinflammatory, antimigraine, antidiabetic, tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. Peptides of the invention act by modulating the activity of voltage gated ion channels. They may be used for treating or preventing disorders associated with voltage gated ion channels such as neurological disorders, e.g. seizure (associated with epilepsy), neurotoxic injury associated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, cardiovascular inflammation or cardiovascular disorders. They may also be used for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analgesic agents of the invention show diminished side effects and toxicity, and are non-addictive. The sequences given in carcords ABB96595-ABB96697 represent omega-conopeptide propeptide
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Best Local (
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                   anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder; psychosis; anxiety; schizophrenia.
                                                                                                                      Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim
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ABL98916.
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                                                                                                                                                                                               nopeptide Cn6.7 toxin sequence.
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illarity 100.0%;
Conservative 0
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2001US-265888P
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RESULT 6
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CM Omeo
KW Omeo
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Tacobsen R,
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05-FEB-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1(a);
                     neuroprotective; cerebroprotective; cardiovascular; antiinflamma antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychot anxiolytic; neuroleptic; voltage gated ion channel; seizure; epineurological disorder; neurotoxic injury; hypoxia; anoxia; ischestroke; cerebrovascular accident; brain trauma; spinal chord tradrowning; suffocation; perinatal asphyxia; hypoglycaemic event; migraine; inflammation; cardiovascular disorder; psychiatric dispersions and tradrovascular dis
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  psychosis;
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        anxiety;
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larity 96.0%;
Conservative
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2001US-265888P
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                                                                                                                                                                                                                                                                                                          (first
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A
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                                                                                                                                                                                                       analgesic;
                                                                                                                                                                                                                                                                                                                                                                                                           Peptide;
                                                                                                                                                                                                                                                                                                            entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 195pp;
           schizophrenia.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .g. pain,
                                                                                                                                                                                                                                                                                                                                                                                                               71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      for
                                                                                                                                                                                                            anticonvulsant;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              treating disorders associated with in, inflammation, neurological or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                152; L
No. 2e-10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Garrett JE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23;
                                                                                                                                                                                                            vasotropic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                   anoxia; ischaemia;
inal chord trauma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Shon
                                                                                                                                                                                     ropic; cardiant;
antiinflammatory;
                                                                                                                                                                antipsychot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                           epilepsy;
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                                                                                                                                                                    ic;
                                                                   pain;
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RESULT 7
ABB96815
ID ABB9
XX
AC ABB9
XX
AC ABB9
XX
AC ABB9
XX
DT 12-1
DT 12-1
XX
DE Omeo
XX
DE Omeo
XX
DE Omeo
XX
AC OMEO

12-JUL-2002

(first entry)

Omega-conopeptide Ay6.1 toxin

sequence.

cardiant;

ABB96815

standard;

Peptide;

25

AA.

ABB96815

Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia;

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46

CKG

70

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                                                                                                                                                                             The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antiinflammatory, antimigraine, antidiabetic, cardiovascular, antiinflammatory, antimigraine, antidiabetic, cerebrovascular, antiinflammatory, antimigraine, antidiabetic, cerebrovascular, antiinflammatory, antimigraine, antidiabetic, cerebrovascular, antiinflammatory, antimigraine, antidiabetic, cerebrovascular may be used for treating the activity of voltage gated peptides of the invention act by modulating the activity of voltage gated conchannels. They may be used for treating or preventing disorders cerebrovascular accident, brain or channels such as neurological associated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e-g. suffocation, perinatal asphyxia or hypoglycaemic events; pain e-g. for treating psychiatric disorders e-g. psychosis, anxiety or schizophrenia. The analgesic agents of the invention show diminished side schizophrenia. The analgesic agents of the invention show diminished cereords absociated and are non-addictive. The sequences given in cereords absociated and are non-addictive. The sequences given in cereords absociated and are non-addictive.
                                                                                  Query Match
Best Local
                                                                   Matches
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N-PSDB; AI
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05-FEB-2001; 2001US-265888P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1(c); Page 40; 195pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New omega
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Jacobsen
                                                                                                                                       Sequence
                                                                                                                                                                       sequences
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                                   CKG
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ABL98893.
                                                                      N
TGKPCSRIAYNCCTGSCRSGKC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -conopeptides useful for treating disorders associated with ated ion channels e.g. pain, inflammation, neurological or cular disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ζ, X
                                                                      Similarity 96.0
4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cular disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NIV UTAH RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-A2
                                                                                                                                        71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mcintosh JM, Watkins M, Jones RM, Cartier GE;
                                                                                      96.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FOUND.
                                                                          Score 152; DB 23; pred. No. 4.8e-10; ; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Garrett JE,
                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Shon K;
                                                                            0;
                                                                               Gaps
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RESULT 8
ABB96607
ID ABB9
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AC ABB9
XX
DT 12-J
XX
DE Omeg
XX
CM Omeg
KW omeg
KW neur
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                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                          The invention relates to isolated omega-conopeptides, nucleic acid contents of the invention may be described as, analysic, the peptides of the invention may be described as, analysic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antiinflammatory, antimigraine, antidiabetic, tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. Peptides of the invention act by modulating the activity of voltage gated in channels. They may be used for treating or preventing disorders associated with voltage gated ion channels such as neurological disorders, e.g. seizure (associated with epilepsy), neurotoxic injury associated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. migraine; inflammation or cardiovascular disorders. They may also be used for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analgesic agents of the invention show diminished side effects and toxicity, and are non-addictive. The sequences given in records ABB96807-ABB96905 represent omega-conopeptide toxin sequences.
                                                                                                                                                                                                                                                                Query Match
Best Local S
Matches 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Olivera I
Jacobsen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (UTAH )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New omega-conopeptides use voltage gated ion channels cardiovascular disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder; psychiatric disorder; psychosis; anxiety; schizophrenia.
 neuroprotective; cerebroprotective; antimigraine; antidiabetic; tranqui
                            Omega-conopeptide;
                                                     Omega-conopeptide
                                                                                  12-JUL-2002
                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim
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05-FEB-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31-JAN-2002
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                                                                                                                                                                                                          CKGTGKPCSRIAYNCCTGSCRSGKC
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                                                                                                                                                                                                                                                                   23;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BM,
                                                                                                                                                                                                                                                                94.1%;
Similarity 92.0%;
23; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               72
                                                                                                                                         standard;
                                                                                                                                                                                                                                                                                                                       25 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Page 71;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 UTAH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mcintosh JM,
Jones RM, C
                                                                                  (firs
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2001US-265888P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INC.
                                                      Ay6.1 propeptide
                                                                                  T
                            analgesic;
                                                                                                                                       Peptide;
                                                                                  entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               195pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FOUND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cartier GE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               English.
                                                                                                                                                                                                                                                                 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    l for
tranquiliser; vulnerary
                                                                                                                                                                                                                                                                Score 144; DB 23;
Pred. No. 1.6e-09;
; Mismatches 1;
                            anticonvulsant;
                                                                                                                                                                                                           25
                                                                                                                                                                                                                                       25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       pain, inflammation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Garrett
vulnerary;
                          vasotropic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JE,
                                                                                                                                                                                                                                                                                          Length
           ropic; cardiant;
antiinflammator
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       neurological or
antipsychotic;
                                                                                                                                                                                                                                                                                           25;
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                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                Gaps
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RESULT 9
AAY87540
ID AAY
XX
AC AAY
AC AAY
XX
AC AAY
XX
DT 18XX
DE Mat

AAY87540;

000

(first entry)

Mature

conotoxin peptide #11.

AAY87540

standard;

peptide;

0 9

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46

CKGKGKPCSRISYNCCTGSCRSGKC 70

CKGTGKPCSRIAYNCCTGSCRSGKC

25

20

Query Match Best Local S Matches 23

Similarity

94.1%;

Score 144; DB 23; Pred. No. 3.7e-09;

Length 71;

0

Gaps

0

23;

Conservative

1;

Mismatches

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The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antiinflammatory, antimigraine, antidiabetic, tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. Peptides of the invention act by modulating the activity of voltage gated ion channels. They may be used for treating or preventing disorders associated with voltage gated ion channels such as neurological disorders, e.g. seizure (associated with epilepsy), neurotoxic injury associated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. migraine; inflammation or cardiovascular disorders. They may also be used for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analgesic agents of the invention show diminished side records ABB96595-ABB96697 represent omega-conopeptide propeptide sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               stroke; odrowning; migraine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21-JUL-20
05-FEB-20
                                                                                                                                                                                                                                                                                                                                                                                             New omega-conopeptides useful for treating disorders associated with voltage gated ion channels e.g. pain, inflammation, neurological or cardiovascular disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 20
N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (UTAH )
(COGN-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 psychosis; anxiety;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Olivera
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  neurolog
Sequence
                                                                                                                                                                                                                                                                                                                                                                  Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Jacobsen
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                                                                                                                                                                                                                                                                                                                                                               1(c); Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   UNIV UTAH RES FOUND. COGNETIX INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ic; neuroleptic; voltage gated ion channel; seizure; epilepsy; cal disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; cerebrovascular accident; brain trauma; spinal chord trauma; suffocation; perinatal asphyxia; hypoglycaemic event; pain; inflammation; cardiovascular disorder; psychiatric disorder; s; anxiety; schizophrenia.
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ABL98867.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R,
71 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-219616P.
2001US-265888P.
                                                                                                                                                                                                                                                                                                                                                               28; 195pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Garrett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Shon 'K;
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XXX PPR XXX PRR XXX PRR XXX PRR XXX PRR XXX PRR XXX PRR XXX PR XXX PRR XXX PR XXX PRR XXX PR XXX
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                                          RESULT 10
AAY87541
ID AAY87
XX
AC AAY87
XX
DT 18-JU
XX
DE Conot
XX
Conot
XX
Conot
XX
FH Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to 14 novel mature conotoxin peptides from marine snails (Conus species); conotoxin precursor proteins; and cDNAs encoding the conotoxin precursors. The mature peptide sequences were discovered by obtaining conotoxin cDNA sequences from mRNA from the corocade cone shell (Conus textile) or the line cone shell (Conus textile) or the line cone shell (Conus triatus). The cDNA sequences were used to determine the conotoxin precursor protein sequences, and the sequences of the mature conotoxin conotoxin peptides were inferred from the precursor sequences. The mature conotoxin peptides can be obtained via chemical synthesis or by in vitro gene expression. Conotoxins inhibit the function of neurons and muscle cells. Certain conotoxins interfere with synaptic transmission, while others act on muscle or at the neuromuscular junction. The 14 novel conotoxins have unique receptor specificity and affinity, so can be used as screening tools to identify new drugs. Conotoxin #11 (AAY87540) used as screening tools to identify new drugs. Conotoxin #11 (AAY87524, AAY87526, AAY87528, AAY87527, AAY87527, AAY87528, AAY87528, AAY87528, AAY87528, AAY87528, AAY87528, AAY87524, AAY87536, AAY87538, AAY87536, AAY87536, AAY87538, AAY87536, AAY87536, AAY87538, AAY87536, AAY87538, AAY87536, AAY87538, AAY87536, AAY87536, AAY87536, AAY87536, AAY87536, AAY
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Best Local S
Matches 23
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CN1237584-A.
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                                                                                                                                                                                                                                                                                                                                                                                AAY87541;
                                                                                                                                                                                                                                                                                                                                                                                                                                        AAY87541
                                                                                                                                                                                                                                                                                                                     18-JUL-2000
                                                                                                                                                                    neuronal
                                                                                                                                                                                                Conotoxin
                                                                                                                                                                                                                                                            Conotoxin
                                                                                                          Conus
                     Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₩
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CKAAGKPCSRIAYNCCTGSCRSGKC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                           standard;
                                                                                                                                                                       inhibitor;
                                                                                                                                                                                                                                                            peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25
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ilarity 92.0%;
Conservative
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                                                                                                                                                                                                                                                                                                                       (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ₽,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99CN-0106070.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              <u>ა</u>
                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        from brocade cone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ENG
/note=
                                                                                                                                                                                                                                                               #11 precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                           protein;
                                                                                                                                                                                                                                                                                                                          entry)
                                                                                                                                                                              muscle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INST ACAD MILITARY MEDICI
                                                                                                                                                                                                         brocade
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chinese
   "Encoded by
                                                                                                                                                                              le cone shell; line cone inhibitor; analgesic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                               71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         shells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           142; DB 21;
No. 2.6e-09;
      ATG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                as
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                shell;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              analgesic
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                                                                                                                                                                                                                 drug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                        screening;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in vitro
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WO200207

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Conus

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RESULT 11
ABB96817
ID ABB96
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AC ABB96
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AC ABB96
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DT 12-JI
XX
DE Omega
XX
Conega
KW neur
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                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to 14 novel mature conotoxin peptides from marine snails (Conus species); conotoxin precursor proteins; and cDNAs cencoding the conotoxin precursors. The mature peptide sequences were conocoxin the sequences from mRNA from the concode cone shell (Conus textile) or the line cone shell (Conus textile) or the line cone shell (Conus triatus). The cDNA sequences were used to determine the conotoxin concotoxin peptides were inferred from the precursor sequences. The mature conotoxin peptides can be obtained via chemical synthesis or by in vitro gene expression. Conotoxins inhibit the function of neurons and muscle cells. Certain conotoxins interfere with synaptic transmission, while conotoxins have unique receptor specificity and affinity, so can be used as screening tools to identify new drugs. Conotoxin #11 (AAY87540) conotoxins have unique receptor specificity and affinity, so can be used for pain relief. Sequences AAY87421, AAY87523, AAY87529, AAY87527, AAY87529, AAY87531, AAY87531, AAY87533, AAY87537, AAY87539, AAY87541, AAY87543, AAY87545 and AAY87547 represent the precursors of conotoxins #1.#14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 200
N-PSDB;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conotoxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   conotoxin
                                                                                                                                                          antimigra
anxiolyti
                                                                                            drowning, migraine,
                                                                                                                                                                                                                                                                                                                                 ABB96817
                                                                                                                                                                                                                                                                                                      ABB96817
                                                                                                                                                                                                                                         Omega-co
                                                                                                                                                                                                                                                                      12-JUL-2
                                                                                                                                                                                                         Omega-co
                                                                                                                                           neurolog
                                                                                                                                                                                            neuropro
                                                                                                                             stroke;
                                                                             psychosis;
                                                                                                                                                                                                                                                                                                                                                                                                                46
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                                                                                                                                                                                                                                                                                                                                                                                                                                           CKGTGKPCSRIAYNCCTGSCRSGKC 25
                                                                                                                                                                                                                                                                                                                                                                                                              CKAAGKPCSRIAYNCCTGSCRSGKC 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hua
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                            phopeptide; analgesic; anticonvulsant; vasotropic; cardiant; tective; cerebroprotective; cardiovascular; antiinflammatory; aine; antidiabetic; tranquiliser; vulnerary; antipsychotic; aine; neuroleptic; voltage gated ion channel; seizure; epilepsy; ical disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; cerebrovascular accident; brain trauma; spinal chord trauma; suffocation; perinatal asphyxia; hypoglycaemic event; pain; inflammation; cardiovascular disorder; psychiatric disorder; s; anxiety; schizophrenia.
                                                                                                                                                                                                                                                                        002
                                                                                                                                                                                                                                         nopeptide Ay6.3 toxin sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Page 5-6; 20pp; Chinese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 peptide from brocade cone shells useful as analgesic -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A10463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OLOGICAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ng P;
                                                                                                                                                                                                                                                                                                                                    standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          71 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      #1-#14, respectively.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99CN-0106070.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           92.8%;
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                                                                                                                                                                                                                                                                                                                                        25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 142; DB 21;
Pred. No. 6.2e-09;
D; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 71;
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RESULT 12
ABB96609
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AC ABB96
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the peptides of the invention may be described as, analgesic, canticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antiinflammatory, antimigraine, antidiabetic, cardiovascular invention act by modulating the activity of voltage gated con channels such as neurological disorders, e.g. seizure (associated with epilepsy), neurological disorders, e.g. seizure (associated with epilepsy), neurological casociated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. migraine; inflammation or cardiovascular disorders. They may also be used for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analgesic agents of the invention show diminished side effects and toxicity, and are non-addictive. The sequences given in records ABB96807-ABB96905 represent omega-conopeptide toxin sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
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the peptid
                                                                       neurological disorder; neurotoxic injury; hypoxia; stroke; cerebrovascular accident; brain trauma; spidrowning; suffocation; perinatal asphyxia; hypogly; migraine; inflammation; cardiovascular disorder; pipsychosis; anxiety; schizophrenia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (UTAH )
                                                                                                                                                                                                          Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 voltage gated ion channels cardiovascular disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New omega-conopeptides useful for treating disorders voltage gated ion channels e.g. pain, inflammation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21-JUL-2000;
05-FEB-2001;
                                                                                                                                                                                                                                                                                                                                                 Omega-conopeptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              invention relates to 
ences encoding them,
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                                aurisiacus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            standard;
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ilarity 92.0%;
Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mcintosh
Jones RM,
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2001US-265888P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                    entry)
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Cartier GE;
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                                                                                                                                                                                                                                                                                                                                              propeptide
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Pred.
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No.
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3.4e-09;
ches 2;
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                                                                                                      auma; spinal chord trauma;
hypoglycaemic event; pain
order; psychiatric disorde
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JE,
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                                                                                                                                                                                      anoxia; ischaemia;
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e activity of
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RESULT 13
ABB96870
ID ABB96
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AC ABB96
XX
AC ABB96
XX
DT 12-JU
XX
DE Omega
XX
Omega
KW Omega
KW neurc
KW antin
KW anxic
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neurologi stroke; c drowning; migraine;

ical disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; cerebrovascular accident; brain trauma; spinal chord trauma; suffocation; perinatal asphyxia; hypoglycaemic event; pain; inflammation; cardiovascular disorder; psychiatric disorder

psychiatric disorder;

neuroprot antimigra anxiolyti

Omega-co

nopeptide Mn6.1 toxin sequence.

12-JUL-2

002

(first entry)

ABB96870

ABB96870

standard;

Peptide;

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0,

Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy;

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N-PSDB;
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05-FEB-20
                                                                                                                                                                                                                                                                           ion channels. They may be used for treating or preventing disorders associated with voltage gated ion channels such as neurological disorders, e.g. seizure (associated with epilepsy), neurotoxic injury associated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. migraine; inflammation or cardiovascular disorders. They may also be used for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analgesic agents of the invention show diminished side effects and toxicity, and are non-addictive. The sequences given in records ABB96595-ABB96697 represent omega-conopeptide propeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (UTAH )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antiinflammatory, antimigraine, antidiabetic, tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. Peptides of the invention act by modulating the activity of voltage gated in character for the continuous 
                                                                                                                                                                                                        Sequence
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CKAKGKPCSRIAYNCCTGSCRSGKC
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                                                                                                                                Similarity
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                                                                                                       Conservative
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2001US-265888P.
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                                                                                                    Score 141; DB 23; Pred. No. 8.1e-09; ); Mismatches 2;
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RESULT 14
ABB96661
ID ABB96
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DT 12-JU
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DE Omega
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CM Omega
KW Omega
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Best Local
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Jacobsen
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05-FEB-2001;
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Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antiidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma;
                                                                                                                                                                                                                     ABB96661;
                                                                                                                                                                                                                                                           ABB96661
                                                                                                                                      Omega-conopeptide
                                                                                                                                                                                12-JUL-2002
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23; Conservative
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                                                                                                                                                                                                                                                           standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Page 72;
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2001US-265888P
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                                                                                                                                            Mn6.1 propeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hem, and propeptide sequences. invention may be described as,
                                                                                                                                                                                                                                                             Peptide;
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92.0%;
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ed. No. 5.7e-09;
Mismatches 2;
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KW KW KW KW KW XX OS OS XX PN XX PD PR PR PR XX PA PA PA
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                                                                                                                                                                   RESULT 15
ABB96763
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migraine; i
psychosis;
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Jacobsen R,
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05-FEB-2001; 2001US-265888P.
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N-PSDB; ABL98920.
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                                                                                                                                                                                                                                                                                                                                                                         Sequence
Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;
                                                                                                                      ABB96763;
                                                                                                                                                      ABB96763
                                                  Omega-conopeptide M6.1 generic toxin sequence
                                                                                      12-JUL-2002
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                                                                                                                                                                                                                                      CKGTGKPCSRIAYNCCTGSCRSGKC 25
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inflammation; cardiovascular disorder; psychiatric disorder;
; anxiety; schizophrenia.
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                                                                                                                                                                                                                                                                                                            Similarity 92.0
3; Conservative
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                                                                                                                                                       standard; Peptide;
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The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antiinflammatory, antimigraine, antidiabetic, tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. Peptides of the invention act by modulating the activity of voltage gated ion channels. They may be used for treating or preventing disorders associated with voltage gated ion channels such as neurological disorders, e.g. seizure (associated with epilepsy), neurotoxic injury associated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. migraine; inflammation or cardiovascular disorders. They may also be used for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analgesic agents of the invention show diminished side effects and toxicity, and are non-addictive. The sequences given in records ABB96698-ABB96806 represent omega-conopeptide generic toxin
                                                                                                      Query Match 88.1
Best Local Similarity 92.1
Matches 23; Conservative
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ALIGNMENTS

A; Residues: 1-25 - KHILN
R; Olivera, B.M.; Gray, W.R.; Zeikus, R.; McIntosh, J.M.; Varga, J.; Rivier
R; Olivera, B.M.; Gray, W.R.; Zeikus, R.; McIntosh, J.M.; Varga, J.; Rivier
R; Olivera, B.M.; Gray, W.R.; Zeikus, R.; McIntosh, J.M.; Varga, J.; Rivier
R; Olivera (230, 1338-1343, 1985)
A; Title: Peptide neurotoxins from fish-hunting cone snails.
A; Teference number: A43620; MUID:86070213; PMID:4071055
A; Reference number: A26020; MUID:86070213; PMID:4071055
A; Molecule type: protein
A; Residues: 1-25 < OLI>
R; Olivera, B.M.; Cruz, L.J.; de Santos, V.; LeCheminant, G.W.; Griffin, D.
Biochemistry 26, 2086-2090, 1987
A; Title: Neuronal calcium channel antagonists. Discrimination between calc
A; Reference number: A34115; MUID:87299637; PMID:2441741
A; Reference number: A34115; MUID:87299637; PMID:2441741
A; Reference number: A67648; PDB:1MVI
A; Reference number: A67648; PDB:1MVI
A; Reference number: A67648; PDB:1MVI
A; Rielsen, K.J.; Thomas, L.; Lewis, R.J.; Alewood, P.F.; Craik, D.J.
J. Mol. Biol. 263, 297-310, 1996
A; Title: A consensus structure for omega-conotoxins with different selection and the consensus structure for omega-conotoxins with different selection (250, 227-310, 1996)
A; Reference number: A58619; MUID:97070382; PMID:8913308
A; Reference number: A58619; MUID:97070382; PMID:97070382; PMID:97070382; PMID:97070382; PMID:97070382 A; Title: A new A; Reference number: JH0699; A; Reference number: JH0699; A; Recession: JH0700
A; A; Accession: JH0700
A; Status: nucleic acid sequence not shown A; Molecule type: mRNA
A; Molecule type: mRNA
A; Residues: 1-25 < HIL>
A; Residues: 1-25 < Gray, W.R.; Zeikus, R.; Mc A; Title: Three-dimen:
A; Reference number:
A; Contents: annotation
C; Superfamily: omega
C; Keywords: acetylch
F; 1-16, 8-20, 15-25/Di
F; 25/Modified site: A; Contents: annotation; conformation by (1)H-NMR R; Kohno, T.; Kim, J.I.; Kobayashi, K.; Kodera, Y.; Maeda, submitted to the Brookhaven Protein Data Bank, April 1995 A; Reference number: A66296; PDB:10MG A; Contents: annotation; conformation by (1)H-NMR, residues R; Kohno, T.; Kim, J.I.; Kobayashi, K.; Kodera, Y.; Maeda, Biochemistry 34, 10256-10265, 1995 omega-conotoxin MVIIA [validated] - cone shell (Conus magus)
C; Species: Conus magus (magus cone)
C; Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change
C; Accession: JH0700; C60133; A34115
R; Hillyard, D.R.; Monje, V.D.; Mintz, I.M.; Bean, B.P.; Nadasdi, Neuron 9, 69-77, 1992
A; Title: A new conus peptide ligand for mammalian presynaptic Ca RESULT JH0700 Three-dimensional structure in solution of the calcium channel nce number: A58627; MUID:95367555; PMID:7640281 ts: annotation; conformation by (1)H-NMR w conus peptide ligand for mammalian presynaptic Ca2+ channels. umber: JH0699; MUID:92337922; PMID:1352986 JH0700 cetylcholine release 5-25/Disulfide bo noline release inhibition; amidated carboxyl end; sulfide bonds: #status predicted amidated carboxyl end (Cys) #status experimental I.M.; Bean, B.P.; Nadasdi, L.; residues G.W.; Griffin, Sato, 15-Sep-2000 selectivities Rivier, **×** Ramachandran, calcium calcium channel D.; Zeikus, blocker J.; channel a e Ħ

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Similarity 19; Conserv

Conservative

79.18; 76.08;

Score 121; DB 2; Pred. No. 2.6e-07; 2; Mismatches 4

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A; Residues: 3.2 Basus, V.J.
R; Farr-Jones, S.; Basus, V.J.
R; Farr-Jones, S.; Basus, V.J.
A; Reference number: A66297; PDB:10MN
A; Contents: annotation; conformation by (1 R; Farr-Jones, S.; Miljanich, G.P.; Nadasdi J. Mol. Biol. 248, 106-124, 1995
A; Title: Solution structure of omega-conota; Title: Solution structure of omega-conota; MUID:95248539
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R; Hillyard, D.n.,
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A; Residues: 1-25 <HIL>
R; Olivera, B.M.; Cruz, L.J.
Blochemistry 26, 2086-2090,
A; Title: Neuronal calcium c
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C; Species: Conus
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C; Date: 17-Apr-1993 #sequence_revision
C; Accession: JH0699; PC2380
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                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: GB:S40826; NID:g252126; PII R;Nemoto, N.; Kubo, S.; Yoshida, T.; Chino, N.; Biochem. Biophys. Res. Commun. 207, 695-700, 19 A;Title: Solution structure of omega-conotoxin A;Reference number: PC2380; MUID:95169113; PMII A;Accession: PC2380
A; Reference number: A58582; MUID: 952, A; Contents: annotation; conformation C; Superfamily: omega-conotor; C; Keyworde
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Reference number:
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Title: A new conus
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Keywords: acetylcholine release:
1-16,8-20,15-25/Disulfide bonds:
25/Modified site: amidated carbo
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17-Apr-1993 #sequence_revision
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3: A new conus peptide

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MUID:95248539; PMII
formation by (1)H-N
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Nadasdi, L.; R
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22; PMID:1352986
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PMID:1352986
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                                                                                              exin MVIIC, a PMID:7731037
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N.; Kimura, T.;
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F;3-28/Product:
F;3-18,10-22,17
F;28/Modified s
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C;Species: Conus r
C:nate: 27-Mar-19
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C; Superfamily: omega-conot
C; Keywords: toxin; venom
F; 4-29/Product: omega-conc
F; 4-19, 11-23, 18-28/Disulfi
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A; Title: A new
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C; Species: C
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C44379
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C; Superfamil
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                                                                                                                                                                                                                        A; Note: sequence extracted from NCBI backbone (NCBIP:116002); structure R; Nielsen, K.J.; Thomas, L.; Lewis, R.J.; Alewood, P.F.; Craik, D.J. submitted to the Brookhaven Protein Data Bank, August 1996 A; Reference number: A67649; PDB:1MVJ A; Contents: annotation; conformation by (1)H-NMR, residues 1-26 R; Nielsen, K.J.; Thomas, L.; Lewis, R.J.; Alewood, P.F.; Craik, D.J.
                                                                                                                                                                                                                                                                                                                                                                                                         A; Cross-references:
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                                                                                                                                                                                A; Title:
                                                                                                                                                       A; Reference
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;Keyword~
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Biol. 26
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                                                                                                   A consensus structure for omega-conotoxins with nce number: A58619; MUID:97070382; PMID:8913308 ts: annotation; conformation by (1)H-NMR t: This omega-conotoxin blocks presynaptic calc.
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Conus peptide ligand for Ca channel subtypes.
mber: A58537; MUID:94150815; PMID:8107968
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us magus (magus cone)
-1997 #sequence_revision 11-Apr-1997 #text_change 16-Jul-1999
58537
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-28/Disulfide bonds: #status experimental
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                                                                                                                                                                                                           263, 297-310, 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; Zafaralla, G.C.; Nadasdi, L
1, 9919-9926, 1992
alpha- and omega-conotoxins
mber: A44379; MUID:93003172;
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93 #sequence_revision 31-Dec-1993 #text_change
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N; Alternate names: shaker peptide GVIIB
C; Species: Conus geographus (geography cc C; Date: 11-Dec-1992 #sequence_revision 11
C; Accession: B43620
R; Olivera, B.M.; Gray, W.R.; Zeikus, R.; Science 230, 1338-1343, 1985
A; Title: Peptide neurotoxins from fish-hu A; Reference number: A43620; MUID: 86070213
A; Accession: B43620
A; Molecule type: protein
A; Residues: 1-29 <OLI>C; Superfamily: omega-conotoxin
C; Keywords: acetylcholine release inhibitif; 1-16, 8-19, 15-26/Disulfide bonds: #status
F; 1-16, 8-19, 15-26/Disulfide bonds: #status
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C; Species: Conus geographus (geograp
C; Date: 11-Dec-1992 #sequence_revis
C; Accession: A43620
R; Olivera, B.M.; Gray, W.R.; Zeikus
Science 230, 1338-1343, 1985
A; Title: Peptide neurotoxins from f
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A; Molecule type: protein
A; Residues: 1-29 <OLI>
C; Superfamily: omega-conot
C; Keywords: acetylcholine
F; 1-16, 8-19, 15-26/Disulfic
F; 4,7/Modified site: 4-hyd
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variant-specific surface protein
C; Species: Plasmodium falciparum
C; Date: 15-Oct-1999 #sequence_re
C; Accession: T28626
R; Su, X.Z.; Heatwole, V.M.; Wert
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Keywords: acetylcholine release inhi
1-16,8-19,15-26/Disulfide bonds: #st
4,7/Modified site: 4-hydroxyproline
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A; Reference number: 2
A; Accession: T28626
A; Status: preliminary
A; Molecule type: DNA
A; Residues: 1-2664 < S
A; Cross-references: F
C; Genetics:
A; Introns: 2197/3
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C; Date: 25-
C; Accession
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A; Note:
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R; Olivera, B.M.;
Biochemistry 23;
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Biochemistry
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A; Accession:
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Science 230,
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A; Residues: 1-73 < COL
A; Cross-references: GI
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Biopolymers 2
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A; Residues: 46-7
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Title: Purification and sequence of a presynaptic peptide Reference number: A01785; MUID:85072796; PMID:6509012
Accession: A01785
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The lar
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J.H.; Bradley, E.K.; Miljanich, G.P.; Nadasdi, L.; R to the Brookhaven Protein Data Bank, April 1993 ce number: A51894; PDB:10MC s: annotation; conformation by (1)H-NMR, residues 46 J.H.; Bradley, E.K.; Miljanich, G.P.; Nadasdi, L.; R try 32, 7396-7405, 1993 Solution structure of omega-conotoxin GVIA using 2-L ce number: A58536; MUID:93332945; PMID:8338837 s: annotation; conformation by (1)H-NMR s: annotation; conformation by (1)H-NMR to the Brookhaven Protein Data Bank, August 1993
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-Feb-1985 #sequence_revision 23-Mar-1995 #text_change
n: A44006; A60133; B60133; A01785
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1111-1116, 1992
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13; Conserv
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number: 220487; MUID:95330813;
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S61-S68, 1986
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MUID:86070213; PMID:4071055
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A; Molecule type: mRNA
A; Residues: 1-909 < MEH>
A; Cross-references: GB:M62976
A; Cross-references: GB:M62976
C; Comment: This transmembrane glycoprotein binds LDL, the major cloomplexes must first cluster into clathrin-coated pits.
C; Superfamily: LDL receptor; EGF homology; LDL receptor ligand-b C; Reywords: cholesterol; coated pits; duplication; endocytosis; F; 12-1/Domain: signal sequence #status predicted <SIG>F; 12-909/Product: LDL receptor #status predicted <AMAT>
F; 22-909/Product: LDL receptor ligand-binding repeat homology <LD; 109-143/Domain: LDL receptor ligand-binding repeat homology <LD; 1195-229/Domain: LDL receptor ligand-binding repeat homology <LD; 1234-268/Domain: LDL receptor yWTD-containing repeat homology <LD; 1234-369/Domain: LDL receptor yWTD-containing repeat homology <LD; 1237-639/Domain: LDL receptor yWTD-con
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A; Contents: (C; Comment: T)
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QRXLL1
LDL receptor 1 precus
C; Species: Xenopus 1a
C; Date: 31-Dec-1993 4
C; Accession: A40388
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C; Superfamily: omega-conotoxin
C; Superfamily: omega-conotoxin
C; Keywords: acetylcholine release inhibition; amidated car
F; 1-22/Domain: signal sequence #status predicted <SIG>
F; 23-45/Domain: propeptide #status predicted <PRO>
F; 246-73/Product: omega-conotoxin GVIB #status experimental
F; 46-72/Product: omega-conotoxin GVIA #status experimental
F; 46-71/Product: omega-conotoxin GVIC #status experimental
F; 46-61, 53-64, 60-71/Disulfide bonds: #status experimental
F; 49,55,66/Modified site: 4-hydroxyproline (Pro) #status
F; 72/Modified site: amidated carboxyl end (Tyr) (amide in
                                                                                          F;109-143/Domain: LDL receptor ligand-binding repeat homolo
F;148-183/Domain: LDL receptor ligand-binding repeat homolo
F;148-183/Domain: LDL receptor ligand-binding repeat homolo
F;234-268/Domain: LDL receptor ligand-binding repeat homolo
F;234-311/Domain: LDL receptor ligand-binding repeat homolo
F;274-311/Domain: LDL receptor ligand-binding repeat homolo
F;316-350/Domain: LDL receptor ligand-binding repeat homolo
F;316-350/Domain: LDL receptor vWTD-containing repeat homolo
F;437-483/Domain: LDL receptor vWTD-containing repeat homol
F;437-483/Domain: LDL receptor vWTD-containing repeat homol
F;571-613/Domain: LDL receptor vWTD-containing repeat homol
F;571-613/Domain: LDL receptor vWTD-containing repeat homol
F;665-709/Domain: LDL receptor vWTD-containing repeat homol
F;665-709/Domain: LDL receptor vWTD-containing repeat homol
F;837-858/Domain: EGF homology <EG3>
F;717-813/Region: clustered O-linked oligosaccharides
F;873-877/Region: coated-pit mediated internalization signal
F;866-898/Region: basolateral targeting signal
F;97,270,459/Binding site: carbohydrate (Asn) (covalent) #:
F;316-327,323-336,338-350,356-366,362-375,377-390,665-679,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; menta, K.D.; Chen, W.J.; Goldstein, J.L.; Bi
J. Biol. Chem. 266, 10406-10414, 1991
A; Title: The low density lipoprotein receptor
A; Reference number: A40388; MUID:91244815; PMI
A; Accession: A40388
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ps: Xenopus laevis (African clawed frog)
31-Dec-1993 #sequence_revision 31-Dec-1
                                                   Match
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PMID:1709931
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R;Hillyard, D.R.; Olivera, B.M.; Woodward, S.; Corpuz, G.P.; Gr
Biochemistry 28, 358-361, 1989
A;Title: A molluscivorous Conus toxin: conserved frameworks in A;Reference number: A30103; MUID:89207553; PMID:2706261
A;Residues: 52-78 <HIL>
R;Fainzilbor
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Eur. J. Biochem. 202, 589-595, 1991
A; Title: Mollusc-specific toxins from the venom of Conus tex
A; Reference number: S19553; MUID:92104183; PMID:1761058
A; Accession: S19553
A; Molecule type: protein
A; Residues: 52-78 <FAI>
C; Superfamily: omega-conotoxin
C; Keywords: neurotoxin; sodium channel inhibitor; venom
F; 1-22/Domain: signal sequence #status
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F; 52-78/Product
F; 53-68, 60-72, 6
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A; Title: Constant and hypervariable regions in conotoxin propeptides. A; Reference number: S12513; MUID:90214607; PMID:1691090
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C; Species: (
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A; Cross-references: {
A; Map position: 16R
C; Superfamily: Saccha
C; Keywords: transmeml
F; 39-55/Domain: trans
F; 123-139/Domain: trans
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N; Alternate na
C; Species: Sac
C; Date: 08-Jul
                                                                                                                                                 A;Residues: 1-139 <BAD>
A;Cross-references: EMBL:Z49219; NID:g805025;
A:Gross-references: strain AB972
                                                                                                           A; Gene: MIPS: YPR064w
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number: S54059
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nes: conotoxin IA; King-Kong peptide (KK-0)
is textile (cloth-of-gold cone)
1997 #sequence_revision 11-Apr-1997 #text_change
[2513; A30103; S19553
R.; Cruz, L.J.; Olivera, B.M.; Hillyard, D.R.
3-1020 1000
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3ray, W.R.;
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A; Title: Mollusc-sp
A; Reference number:
A; Reference number:
A; Accession: S19619
A; Molecule type: pro
A; Residues: 1-27 <F;
C; Superfamily: omeg
C; Keywords: neuroto;
F; 2-17, 9-21, 16-26/D
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C; Date: 19-Mar
C; Accession: S
R; Fainzilber,
Eur. J. Bioche
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S19619
delta-conotoxin
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Biochemistry
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A47437
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  LDL-receptor-related protein C; Species: Caenorhabditis ele C; Date: 10-Sep-1999 #sequence
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Keywords: neurotoxin; sodium cha
2-17,9-21,16-26/Disulfide bonds:
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1-15,8-18,
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Lle: Mollusc-specific toxins from the ference number: S19553; MUID:92104183;
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Status: preliminary; translated from GB/EMBL/DDBJ
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the EMBL Data Library, July 1992
: A gene for an LDL receptor-related protein (LPR)
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Best Local Similarity 43.5%;

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Olivera B.M., Cruz L.J., de Santos V., Le Clivera B.M., Cruz L.J., de Santos V., Le Zeikus R.D., McIntosh J.M., Galyean R., Yeivier J.E.;

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"Neuronal calcium channel antagonists. D: channel subtypes using omega-conotoxin fi Biochemistry 26:2086-2090(1987).
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J. Biol. Chem. 275:35335-35344(2000).
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MEDLINE-86070213; PubMed-4071055;
Olivera B.M., Gray W.R., Zeikus R.D., Notivera B.M., de Santos V., Cruz L.J.;
Rivier J.E., de Santos from fish-hunting
"Peptide neurotoxins from fish-hunting Science 230:1338-1343(1985).
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MEDLINE-95367555; PubMed-7640281;
Kohno T., Kim J.-I., Kobayashi K., Kodera
Kohno T., Kim J.-I., Kobayashi K., Kodera
Three-dimensional structure in solution
"Three-dimensional structure";
                                          spectroscopy.";
FEBS Lett. 370:163-169
                                                                                    Basus V.J., Nadasdi
"Solution structure
                                                                                                                       STRUCTURE BY NMR. PubMed=7656969;
                                                                                                                                                                                              blocker omega-conotoxin MVIIA.";
Biochemistry 34:10256-10265(1995)
                                                                                                                                                                                                                                                                                    STRUCTURE BY NMR. MEDLINE-95367555;
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       NMR
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dea; Conidae; Conus.
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Last annotation update)
precursor (SNX-111) (Ziconotide).
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Adams D.J., Bond T., Thomas L.,
er R., Andrews P.R., Alewood P.F.
                                                                                      Ramachandran J., Miljanich omega-conotoxin MVIIA using
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he calcium
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omega-conopeptides.";
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RESULT 3
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precursor.
Protein Sc
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Goldenberg
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PIR;
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I - DATABASE: NAME-Ziconotide Source; NOTE-Web si WWW-"http://docmd.com/ziconotide/".

IR; C60133; C60133.

IR; JH0700; JH0700.

DB; 10MG; 03-APR-96.

DB; 10MVI; 12-AUG-97.

DB; 1MVI; 12-AUG-97.

DB; 1DW4; 01-MAR-00.

DB; 1DW5; 01-MAR-00.

DB; 1FE0; 23-AUG-00.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FUNCTION: Omega-conotoxins act at presynaptic membranes, they bi and block voltage-sensitive calcium channels (VSCC). This toxin blocks N-type calcium channels.
SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the venom duct.
THARMACEUTICAL: Is under clinical trial by Neurex. It blocks act pharmaceutical is under clinical trial by Neurex. It blocks act pain in patients who no longer obtain relief from opiate drugs. pain in patients who no longer obtain relief from opiate drugs. is 100 to 1000 times more potent than morphine. By blocking calcium channels it disable nerves that transmit pain signals. SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TO
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J., Thomas L., Lewis R.J., Alewood P.F., Craik D.J.;
us structure for omega-conotoxins with different
les for voltage-sensitive calcium channel subtypes:
of MVIIA, SVIB and SNX-202.";
ol. 263:297-310(1996).
                                                                                             TGKPCSRIAYNCCTGSCRSGKC 25
                                                                                                                         9;
                                                                                                                                  Similarity
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1243158; PubMed=11344322;
g D.P., Koehn R.E., Gilbert D.E., Wagner G.;
structure and backbone dynamics of an omega-conotoxin
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                                                                                                                                                                                                                                                                                                                  signal;
                                                                                                                        79.1%;
illarity 76.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10:538-550(2001).
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                                                                                                                                                                             toxin; Neurotoxin; Toxin; Calcium; 3D-structure; Pharmaceutical.

22 POTENTIAL.

45
70 OMEGA-CONOTOXIN MVIIA
61
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70 AMIDATION (G-71 PROVI
70 AMIDATION (G-71 PROVI
47 K->A: LITTLE DECREASE
58 Y->A: STRONG DECREASE
7587 MW; E2A32725C81AF31D CRC6
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                                                                                                                             Score 121; DB 1;
Pred. No. 2.3e-08;
2; Mismatches 4
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K->A: LITTLE DECREASE IN ACTIVITY.
Y->A: STRONG DECREASE IN ACTIVITY.
E2A32725C81AF31D CRC64;
       PRT;
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       AA.
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plate drugs. It
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Matches 17
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J. Biol. Chem. 275:3535-35344(2000).
-i- FUNCTION: Omega-conotoxins act at presynaptic membran and block voltage-sensitive calcium channels (VSCC) (similarity). This toxin blocks N-type calcium channel-i- SUBCELLULAR LOCATION: Secreted.
-i- TISSUE SPECIFICITY: Expressed by the venom duct.
-i- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXIN.
Presupartion
                                                          MEDLINE-87299637; PubMed-2441741;
Olivera B.M., Cruz L.J., de Santos V., Lecheminant G
Zeikus R.D., McIntosh J.M., Galyean R., Varga J., Gr
Rivier J.E.;
"Neuronal calcium channel antagonists. Discriminatio channel subtypes using omega-conotoxin from Conus ma Biochemistry 26:2086-2090(1987).
-I- FUNCTION: Omega-conotoxins act at presynaptic me and block voltage-sensitive calcium channels (VS-1-SUBCELLULAR LOCATION: Secreted.
                                                                                                                                                                                                                                                                             P05485;
P05485;
O1-NOV-1988 (Rel. 09, Created)
O1-NOV-1988 (Rel. 09, Last sequence update 15-JUN-2002 (Rel. 41, Last annotation update 0mega-conotoxin MVIIb (SNX-159).
Conus magus (Magus cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; (Neogastropoda; Conoidea; Conidae; Conus. NCBI_TaxID=6492;
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SEQUENCE
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Amidation; S
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15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Omega-conotoxin CVIA precursor.
Conus catus (Cat cone).
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     TISSUE SPECIFICITY: SIMILARITY: BELONGS FAMILY.
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Similarity 68.0%;
17; Conservative
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B99D9C7C74996D01
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BY SIMILARITY.
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update)
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RESULT 6
CXOB_CONCT
ID CXOB_CONCT
AC P58918;
DT 15-JUN-2002
DT 15-JUN-2002
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CXOC_CC
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A Sharpe I.A., Luchian T., Adams D.J., Bond T., Thomas L., Jones A.,
A Matheson J.-L., Drinkwater R., Andrews P.R., Alewood P.F.;
T "Novel omega-conotoxins from Conus catus discriminate among neuronal
T calcium channel subtypes.";
L J. Biol. Chem. 275:35335-35344(2000).
C -!- FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind
C similarity). This toxin blocks N-, P-, and Q-type calcium
C channels.
C -!- SUBCELLULAR LOCATION: Secreted.
C -!- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE
FAMILY.
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Matches 16
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DISULFID 1 16
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MOD_RES 26 26
SEQUENCE 26 AA; 2790 h
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NCBI_TaxID=101291;
[1]
SEQUENCE, AND SYNTH
TISSUE=Venom;
PubMed=10938268;
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PIR; JH0701
HSSP; P0548
Presynaptic
Amidation.
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SEQUENCE
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P58919;
15-JUN-20
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15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
Omega-conotoxin CVIC.
Conus catus (Cat cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Conegastropoda; Conoidea; Conidae; Conus.
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Similarity 64.0%;
6; Conservative
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                                                                                                                                 Similarity 65. 7; Conservative
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tic neurotoxin;
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BY SIMILARITY.
BY SIMILARITY.
AMIDATION.
56EFC382335C4A8B CRC64;
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Pred. No. 9.9e-07;
4; Mismatches 4;
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E4B9CE5EFAA3734D CRC64;
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Lewis R.J., Nielsen K.J., Craik D.J., Loughnan M.L., Adam Sharpe I.A., Luchian T., Adams D.J., Bond T., Thomas L., Matheson J.-L., Drinkwater R., Andrews P.R., Alewood P.F. "Novel omega-conotoxins from Conus catus discriminate amc calcium channel subtypes.";
J. Biol. Chem. 275:3535-35344(2000).

-i- FUNCTION: Omega-conotoxins act at presynaptic membrar and block voltage-sensitive calcium channels (VSCC) (similarity). This toxin blocks N-, P-, and Q-type calcium channels.

-i- SUBCELLULAR LOCATION: Secreted.
-i- TISSUE SPECIFICITY: Expressed by the venom duct.
-i- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXING AND THE O-SUPERFAMILY O-SUPERFAMILY O-SUPERFAMILY O-SUPERFAMILY O-SUPERFAMILY O-SUPERFAMI
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Matches
                                                           Payreau P., Gilles N., Lamthanh H., Bournaud R., Shimahara T.,
Bouet F., Laboute P., Letourneux Y., Menez A., Molgo J., Le Gall F.;
A Bouet F., Laboute P., Letourneux Y., Menez A., Molgo J., Le Gall F.;
A new omega-conotoxin that targets N-type voltage-sensitive calcium channels with unusual specificity.";
Channels with unusual specificity.";
Biochemistry 40:14567-14575(2001).

Biochemistry 40:14567-14575(2001).

Biochemistry omega-conotoxins act at presynaptic membranes, they bind condition of the control of t
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Eukaryota; Metazoa;
Neogastropoda; Cono
NCBI_TaxID=101291;
[1]
SEQUENCE, AND SYNTH
TISSUE=Venom;
PubMed=10938268;
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SEQUENCE
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P58916;
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SEQUENCE,
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Eukaryota; Metazoa; Mollusca; Gastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
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NCBI_TaxID-101297;
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  SUBCELLULAR LOCATION:
TISSUE SPECIFICITY: E
MASS SPECTROMETRY: MW
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Similarity 60.0%;
15; Conservative
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Metazoa; Mollusca; Gastropoda;
אאר Conoidea; Conidae; Conus.
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           : Expressed MW=2847.74
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AMIDATION.
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              by the venom duct.
METHOD=Electrospray
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Hydroxylatio
BINDING
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P37300;
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Eukaryota;
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15-JUN-2002 (Rel. 41, Last annotation update)
Omega-conotoxin MVIIc precursor (SNX-230) (Fragment)
Conus magus (Magus cone).
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MEDLINE=92337922; PubMed=1352986;

Hillyard D.R., Monje V.D., Mintz I.M., Bean B.P., Nada Hillyard D.R., Monje V.D., Mintz I.M., Bean B.P., Nada Ramachandran J., Miljanich G.P., Azimi-Zoonooz A., McI Cruz L.J., Imperial J.S., Olivera B.M.;

"A new Conus peptide ligand for mammalian presynaptic Neuron 9:69-77(1992).
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NCBI_TaxID=6492;
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PubMed-10
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"Solution structure of omega-conotoxin MVIIC, a high affin "Solution structure of omega-conotoxin MVIIC, a high affin of P-type calcium channels, using 1H NMR spectroscopy and relaxation matrix analysis.";
relaxation matrix analysis.";
J. Mol. Biol. 248:106-124(1995).
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MEDLINE-95248539; PubMed=7731037;
Farr-Jones S., Miljanich G.P., Nadasdi L., Ramachandran J.,
                                                                                                                                Kim J.I.,
Sato K.;
"Tyr13 is
P/Q-type c
Biochem. B
                                                                                                                                                                                                                                                    MUTAGENESIS OF TYR-15.
PubMed=7677735;
                                                                                                                                                                                                                                                                                                                   "Structure-activity relationships of omega-conotoxins MVIIA, MVIIC and 14 loop splice hybrids at N and P/Q-type calcium channels."; J. Mol. Biol. 289:1405-1421(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                Nielsen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 [3]
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                                     type calcium channel.";

them. Biophys. Res. Commun. 214:305-309(1995).

FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind and block voltage-sensitive calcium channels (VSCC). This toxin blocks N-type calcium channels as well as types of high-threshold blocks not calcium channels as well as types of high-threshold blocks not calcium channels resistant to both dihydropyridines well as types of high-threshold blocks not calcium channels resistant to both dihydropyridines
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  SUB
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                      omega-conotoxin GVIA.
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      LOCATION:
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                                                                                                                                                                                                                                    Martin-Moutot N., Seagar M.J.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HYDROXYLATION.
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troscopy and complete
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80
STRUCTURE BY NMR.

PubMed=9920728;

RX PubMed=9920728;

Civera C., Vazquez A., Sevilla J.M., Bruix M., Gago F., Garcia Sevilla P.;

"Solution structure determination by two-dimensional 1H NMR of omega-conotoxin MVIID, a calcium channel blocker peptide.";

Biochem. Biophys. Res. Commun. 254:32-35(1999).

-I- FUNCTION: Omega-conotoxins act at presynaptic membranes, the and block voltage-sensitive calcium channels (VSCC). This to blocks channels of the N-type as well as other types.

-I- SUBCELLULAR LOCATION: Secreted.
-I- TISSUE SPECIFICITY: Expressed by +--
FAMILY.
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Best Local S
Matches 16
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PIR; JH0699;
PDB; 10MN; 0
PDB; 1CNN; 3
Presynaptic
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SEQUENCE
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[2]
STRUCTURE BY NMR.
                                                                                                                                                                                                                             Conus magus (Magus cone).
Eukaryota; Metazoa; Mollusca; Gastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=6492;
[1]
SEQUENCE FROM N.A.
MEDLINE=94150815; PubMed=8107968;
MEDLINE=94150815; PubMed=8107968;
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BINDING
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- SIMILARITY: BELONGS !
FAMILY.
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; JH0699; JH0699.
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; 1CNN; 31-MAY-00.
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larity 61.58;
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precursor (SNX-238) (Fragment).
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AMIDATION (G-29 PROVIDE A
Y->A: HIGH DECREASE IN BI
AC7A68948474728A CRC64;
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Best Local
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the Euro
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01-DEC-1992 (Rel. 24, Created)

16-OCT-2001 (Rel. 40, Last sequence update)

15-JUN-2002 (Rel. 41, Last annotation update)

Omega-conotoxin SVIB precursor (SNX-183).

Conus striatus (Striated cone).

Conus striatus (Striated cone).
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NCBI_TaxID=6493;
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FUNCTION: Omega-conotoxins act at presynaptic membranes, tand block voltage-sensitive calcium channels (VSCC). This blocks N-, P-, and Q-type calcium channels.
SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the venom duct.
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97070382; PubMed=8913308;
K.J., Thomas L., Lewis R.J., Alewood P.F., Craik D.J.
nsus structure for omega-conotoxins with different
ities for voltage-sensitive calcium channel subtypes;
on of MVIIA, SVIB and SNX-202.";
Biol. 263:297-310(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and this statement is not removed. Usage by and for commercial requires a license agreement (See http://www.isb-sib.ch/announce, an email to license@isb-sib.ch).
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., Zafaralla G.C., Nadasdi L., Hammerland L.G., Yoshikami
., Kristipati R., Ramachandran J., Miljanich G., Olivera J
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| RGASCRKTMYNCCSGSCNRGRC 28
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20037955; PubMed-10573284;
, Yu F., Zhao D., Huang P.-T., Huang
tides from Conus striatus and Conus
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5484; 1MVI.
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                                                                                                                                                                                                                                                           OF 46-71, AND SYNTHESIS.
                                                                                                                                                                                                                                                                                                                                                            FROM N.A.
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mas L., Lewis R.J., Alewood P.F., Craik D.J.;
c-- ~mara-conotoxins with different
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Pred. No. 1.9e-05;
4; Mismatches 8
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Conus textile
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                                                                                                                                         Lewis R.J., Nielsen K.J., Craik D.J., Loughn Sharpe I.A., Luchian T., Adams D.J., Bond T. Matheson J.-L., Drinkwater R., Andrews P.R., "Novel omega-conotoxins from Conus catus discalcium channel subtypes.";
J. Biol. Chem. 275:3535-35344(2000).
-!- FUNCTION: Omega-conotoxins act at presynand block voltage-sensitive calcium chan similarity). This toxin blocks N-type callered.
-!- SUBCELLULAR LOCATION: Secreted.
-!- TISSUE SPECIFICITY: Expressed by the venture.
                                                                                                                                                                                                                                                                                                                                                                                                                           Omega-conotoxin CVID precu
Conus catus (Cat cone).
Eukaryota; Metazoa; Mollus
Neogastropoda; Conoidea; (
NCBI_TaxID=101291;
[1]
SEQUENCE FROM N.A., SEQUEN
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P58920;
15-JUN-2002
15-JUN-2002
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PIR;
PDB;
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                                                     PROPEP
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TISSUE-Venom
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PubMed-10938268;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CONCT
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                                                                                                              Presynaptic
                                                                                            Amidation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 46
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22 POT
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71 OME
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71 AMI
7741 MW; 1F7
                                                                                                                                                                                                                                                                                                                                                                                           and Venom;
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Idea; Conidae; Conus.
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No. 0.00013;
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um channels
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Bond T., Thomas L
B P.R., Alewood P
Cus discriminate
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CXO7_CONGE
P05483;
01-NOV-1988
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Hydroxylati
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Miljanich
Yamashiro
Method of
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15-JUN-2002
15-JUN-2002
15-JUN-2002
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       SEQUENCE.
MEDLINE=86
Olivera B.
Rivier J.E
                                                                                     01-NOV-1988 (Rel. 09, Created)
01-NOV-1988 (Rel. 09, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
0mega-conotoxins GVIIA/GVIIB (SNX-178).
Conus geographus (Geography cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda; Conoidea; Conidae; Conus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conus radiatus (Rayed cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=61198;
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                                                                          NCBI_TaxID=6491;
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i- FU
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         thod of treating ischemia-related neuronal damage.";
ent number US5051403, 24-SEP-1991.
FUNCTION: Omega-conotoxins act at presynaptic membranes,
and block voltage-sensitive calcium channels (VSCC).
SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the venom duct.
SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS.
                                                                                                                                                                                                                                                        CKGTGKPCSRIAYNCCTGSCRS--GKC
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                                                                                                                                                                                                                                                                                                          45.4%;
imilarity 51.9%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 G.P.,
070213; PubMed-4071055;
M., Gray W.R., Zeikus R.D., McIntosh J.M.,
P., de Santos V., Cruz L.J.;
Reurotoxins from fish-hunting cone snails.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   54.9%;
milarity 48.1%;
Conservative
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72
73 AA;
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(Rel. 41,
(Rel. 41,
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7748 MW;
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AMIDATION (G-73 I
C4CEBD30C77DAEC3
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Pred. No. 0.015;
%; Mismatches
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HYDROXYLATION.
F554C1F8A01A88AF CRC64;
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snails.";
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RESULT
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Matches 15
                                                                                       K MEDLINE-20552922; PubMed-11101291;

K Kobayashi K., Sasaki T., Sato K., Kohno T.;

Three-dimensional solution structure of omega-conotoxin TxVII,

L-type calcium channel blocker.";

Biochemistry 39:14761-14767(2000).

-!- FUNCTION: Omega-conotoxins act at presynaptic membranes, tl

and block voltage-sensitive calcium channels (VSCC). Specific acts on L-type channels. It blocks molluscan dihydropyriding sensitive calcium channels.

-!- SUBCELLULAR LOCATION: Secreted.

-!- TISSUE SPECIFICITY: Expressed by the venom duct.

-!- MASS SPECTROMETRY: MW-2832.23; METHOD=Electrospray.

-!- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMI
                                                                                                                                                                                                                                                               CXO7_CONTE STANDARD; PRT; 26 AA. P56714;
30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
Comega-conotoxin TxVII.
Conus textile (Cloth-of-gold cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caneogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=6494;
[1]
SEQUENCE.
TISSUE=Venom;
MEDLINE=96266175; PubMed=8679638;
Fainzilber M., Lodder J.C., van der Schors Fanzilber M., Lodder J.C., van der Schors Faurlingame A.L., Geraerts W.P.M., Kits K.S.;
"A novel hydrophobic omega-conotoxin blocks sensitive calcium channels.";
Biochemistry 35:8748-8752(1996).
PDB; 1F3K; 13
Presynaptic n
3D-structure.
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TISSUE SPECIFICITY: Expressed by the venom du MISCELLANEOUS: THE SEQUENCE SHOWN IS THAT OF SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF C
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01-FEB-1994 (Rel. 28, Last sequence update)
15-JUN-2002 (Rel. 41, Last sequence update)
0mega-conotoxin GVIA precursor (Shaker peptide) (SNX-124) [Contains: Omega-conotoxin GVIB; Omega-conotoxin GVIC].
Conus geographus (Geography cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=6491;
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Olivera B.M., McIntosh J.M., Cruz L.J., Luque F.A.,
"Purification and sequence of a presynaptic peptide geographus venom.";
Biochemistry 23:5087-5000
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ned solution structure of omega-conotoxin GVIA: impum channel binding.";
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pt. Res. 53:343-351(1999).
UNCTION: Omega-conotoxins act at presynaptic membrand block voltage-sensitive calcium channels (VSCC)
UBCELLULAR LOCATION: Secreted.
ISSUE SPECIFICITY: Expressed by the venom duct.
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Biol. 234:405-420(1993).
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94047089; PubMed=
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C.J., Hunsperger J.P., Incommon structure of omega-cond
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InterPro; IPR004214; Conotoxin; Toxin; Calcium charge processin; Neurotoxin; Toxin; Calcium charge processin; Amidation; Signal; 3D-structure.

Presynaptic neurotoxin; Neurotoxin; Toxin; Calcium charge processin; Amidation; Signal; 3D-structure.

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ALIGNMENTS

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APPLICANT: Tumas, Daniel

APPLICANT: Watanabe, Colin K

APPLICANT: Wood, William

APPLICANT: Zhang, Zemin

TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND

TITLE OF INVENTION: ACIDS ENCODING THE SAME

FILE REFERENCE: P3330R1C30

CURRENT APPLICATION NUMBER: US/10/123,155

CURRENT FILING DATE: 2002-04-15

Prior Application removed - see NUMBER OF SEQ ID Western SEQ
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TYPE: DNA
ORGANISM:
S-10-123-155-
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Goddard, Audrey
Godowski, Paul J.
Gurney, Austin L.
Sherwood, Steven
Smith, Victoria
Stewart, Timothy A.
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Desnoyers, Luc
Filvaroff, Ellen
Gao, Wei-Qiang
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Pred. No. 6.2;
1; Mismatches
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23-155-231

Sequence 231 Publication

Application US/10123155 o. US20030068794A1

Publication No. US20 GENERAL INFORMATION:

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NUMBER OF SEQ ID N
SEQ ID NO 231
LENGTH: 1058
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TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE
TITLE OF INVENTION: ACIDS ENCODING THE SAME
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                                                                        APPLICANT: Zhang, Zemin
TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE
TITLE OF INVENTION: ACIDS ENCODING THE SAME
FILE REFERENCE: P3430R1C227
CURRENT APPLICATION NUMBER: US/10/184,644
CURRENT FILING DATE: 2002-06-28
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Wood, William
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Filvaroff, Ell
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Godowski, Paul
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o. US20030044930A1
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2002-04-15
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APPLICANT:
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          CURRENT APPLICATION NUMBER: US
CURRENT FILING DATE: 2002-06-
Prior Application removed - Se
NUMBER OF SEQ ID NOS: 612
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APPLICATION NUMBER: US/10/184,634
FILING DATE: 2002-06-28
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SEQ ID NOS:
                                                     Zhang, Zemin
NVENTION: SECRETED AND TRANSMEMBRANE
NVENTION: ACIDS ENCODING THE SAME
ENCE: p3430R1C227
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Chen, Jian
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Smith, Victoria
Watanabe, Colin K.
Wood, William I.
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Goddard, Audrey
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Conservative
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Godowski, Paul
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o. US20030044930A1
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LENGTH: 70
TYPE: DNA
ORGANISM:
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Matches
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Matches
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TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES TITLE OF INVENTION: ACIDS ENCODING THE SAME FILE REFERENCE: P3430R1C227 CURRENT APPLICATION NUMBER: US/10/184,644 CURRENT FILING DATE: 2002-06-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES TITLE OF INVENTION: ACIDS ENCODING THE SAME FILE REFERENCE: P3430R1C217
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NUMBER OF SEQ ID 1
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INVENTION: SEC
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Goddard, Audrey
Godowski, Paul J
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                                                                                          Smith, Victoria
                                                                                                                 Gurney, Austin L.
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o. US20030068684A1
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US-10-184-644
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APPLICANT: Wood, William I.
APPLICANT: Zhang, Zemin
TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC TITLE OF INVENTION: ACIDS ENCODING THE SAME
FILE REFERENCE: P3430R1C217
CURRENT APPLICATION NUMBER: US/10/184,634
CURRENT FILING DATE: 2002-06-28
Prior Application removed - See File Wrapper or Palm
NUMBER OF SEQ ID NOS: 612
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TYPE: DNA
ORGANISM:
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          Zhang, Zemin
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Similarity 44.08;
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                                                                                          Desnoyers, Luc
Goddard, Audrey
Godowski, Paul J
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Goddard, Audrey
Godowski, Paul J.
Gurney, Austin L.
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                                 Watanabe, Colin K. Wood, William I.
                                                        Pan, James
Smith, Victoria
                                                                               Gurney, Austin L.
                                                                                                                              Chen, Jian
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SECRETED AND TRANSMEMBRANE POLYPEPTIDES ACIDS ENCODING THE SAME
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TITLE OF INVENTION: ACIDS ENCODING THE SAME
TITLE REFERENCE: P3430R1C217
CURRENT APPLICATION NUMBER: US/10/184,634
CURRENT FILING DATE: 2002-06-28
Prior Application removed - SEQ ID S
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CURRENT APPLICATION NUMBER:
CURRENT FILING DATE: 2002-
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No. US20030068684A1
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Filvaroff, Ellen
Gao, Wei-Qiang
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Gurney, Au
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DeForge,Laura
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                                                                     Gerritsen, Mary E.
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p. US20030068794A1
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NOS: 612
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                        Paul
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Zhang, Zemin

Zhang, Zemin

IITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND

FILE REFERENCE: P3330R1C30

CURRENT APPLICATION NUMBER: US/10/123,155

CURRENT FILING DATE: 2002-04-15

Prior Application removed

NUMBER OF SECTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; SEQ ID NO 157
; LENGTH: 1328
; TYPE: DNA
; ORGANISM: HO
US-10-123-155-15
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US-10-123-155-
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Best Local S
Matches 13
                                                                                             ; ORGANISM:
US-10-123-155
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                                                                                                                    SEQ ID NO
LENGTH:
TYPE: DN
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                                                                   Query Match
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CURRENT FILING DATE: 2002-04-15_____
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ER OF SEQ ID
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                       CKGTGKPCSRIAYNCCTGSCRSGKC
CAGAGGCCATCAAGCATGCCAAGGC 840
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Similarity 52.0%;
3; Conservative
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157
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NVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC NVENTION: ACIDS ENCODING THE SAME
ENCE: P3330R1C30
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No. US20030068794A1
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Filvaroff, Ellen
Gao, Wei-Qiang
Gerritsen, Mary E.
                                              43.1%;
Similarity 44.0%;
1; Conservative
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Godowski, Paul J.
Gurney, Austin L.
Sherwood, Steven
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                                                                                                                                                                                                                                                                            Smith, Victoria
Stewart, Timothy A.
Tumas, Daniel
                                                                                                                                                                                                                                                                                                                                                                                                              DeForge, Laura
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                                                                                                                                                                                                                                                      Watanabe,Colin K
Wood,William
                                                                                                          Sapien
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NOS: 550
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RESULT

-10-184-644-225

GENERAL INFORMATION:

APPLICANT:

Baker, Kevin P.

Publication Sequence

225,

Application US/10184644 b. US20030044930A1

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TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POINTILE OF INVENTION: ACIDS ENCODING THE SAME FILE REFERENCE: P3430R1C217
CURRENT APPLICATION NUMBER: US/10/184,634
CURRENT FILING DATE: 2002-06-28
Prior Application removed - SCOTO NUMBER OF SEQ ID NOTE: SEO TO SEO 
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CURRENT FILING DATE: 2002-06
Prior Application removed - S
NUMBER OF SEQ ID NOS: 612
SEQ ID NO 225
LENGTH: 2692
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SEQ ID NO 225
LENGTH: 2692
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Best Local
Matches 1
                                                                        Query Match 43.1%;
Best Local Similarity 47.8%;
Matches 11; Conservative
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-10-184-644-225
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                                                                                                                                                                             TYPE: DNA
ORGANISM: F
-10-184-634-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pan,
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Gurney, Austin
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Gurney, Austin
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o. US20030068684A1
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2002-06-28
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                                                                                                Score 66;
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Search completed: Job time: 19.968
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Best I
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CURRENT FILING DATE: 2002-04-15
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                                                                                                                                                             TYPE: DNA
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                                             2771 CCGGGCCCTCTATGCCTGGCCAGCC
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                                                                                                                Match
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GOF INVENTION: SECRETED AND TRANSMEMBRANE

GOF INVENTION: ACIDS ENCODING THE SAME

REFERENCE: P3330R1C30
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Smith, Victoria
Stewart, Timothy A.
Tumas, Daniel
Watanabe, Colin K
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Goddard, Audrey
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Filvaroff,Ellen
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Query Match Best Local Matches

Similarity 0; Conserv

82.4%; nilarity 80.0%; Conservative

Score 126; DB 1; Pred. No..3e-07; 2; Mismatches

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NAME: Mohr, Judy M.
REGISTRATION NUMBER: 38,563
REFERENCE/DOCKET NUMBER: 5865
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-324-0860
TELEFAX: 650-324-0960
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ADDRESSEE: Dehlinger &
STREET: 350 Cambridge &
CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: FastSEQ for Windows CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/965, FILING DATE: 07-NOV-1997 CLASSIFICATION: 514
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LENGTH: 25 amino acids
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HYPOTHETICAL:
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INVENTION:
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Kristipati, R
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FILING DATE:
FILING DATE:
ATTORNEY/AGENT INFORMALL:
NAME: Stratford, Carol A
NAME: Stratford, Carol A
REGISTRATION NUMBER: 34,444
REFERENCE/DOCKET NUMBER: 5865
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-324-0880
TELEPHONE: 650-324-0960
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CORRESPONDENCE ADDRE
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SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
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LENGTH: 25 amino 7
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CIOR APPLICATION DATA:
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FILING DATE: 08-MAR-1996
CLASSIFICATION: 514
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CITY:
                 MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
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SOFTWARE: Patentin Net (RRENT APPLICATION DATA:
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T: VALENTINO, KAREN L
T: MILJANICH, GEORGE P
INVENTION: METHODS OF PRODUCING ANALGESIA AND
INVENTION: ENHANCING OPIATE ANALGESIA
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Law Offices of Peter Dehlinger
350 Cambridge Avenue, Suite 300
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                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 5
US-08-496-847-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE/DOCKET NUMBER: 5865
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 324-0880
TELEFAX: (415) 324-0960
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                             Patent No.
                                                     COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for Windows VG
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/496,84
FILING DATE: 27-JUN-1995
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HYPOTHETICAL: NO ORIGINAL SOURCE:
TELECOMMUNICATION INFORMATION: TELEPHONE: 650-324-0880
                                                                                                                                                                                                                                                                TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: FILING DATE: 30-DE ATTORNEY/AGENT INFORM
                                                                                                                                                                                                                                                                                                                                         APPLICANT:
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                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                  ADDRESSEE:
STREET: 35
CITY: Palc
                                                                                                                                                                                                       STATE:
                       NAME: Stratford, Ca
REGISTRATION NUMBER:
REFERENCE/DOCKET NUM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INDIVIDUAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: U. FILING DATE: 19930415
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                                                                                                                                                                                           COUNTRY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   CKGTGKPCSRIAYNCCTGSCRSGKC
                                                                                                                                                                                                                                                                                                                                                                 12, Application b. 5795864 INFORMATION:
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                                                                                                                                                                               RY: US
94306-1546
                                                                                                                                                                                                       Palo
CA
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/AGENT_INFORMATION:
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AMINO ACID
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Adriaenssens,
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                                                                                                                                                                                                                                                                                                                                          Bowersox,
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                                           INFORMATION:
ford, Carol A
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nssens, Peter
                       BER: 34,444
NUMBER: 58
                                                                                                                                                                                                                                                                                                                                          Gary A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               80.48;
                                                                                                                                                                                                                                                                   FORMULATIONS 36
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Avenue, Suite
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RESULT 6
US-08-742-774
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US-08-496-847-
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                                               INFORMATION
SEQUENCE
                                          CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/675,35
FILING DATE: 03-JUL-1996
APPLICATION NUMBER: US/08/049
FILING DATE: 1993-APR-15
APPLICATION NUMBER: US 07/814
FILING DATE: 30-DEC-1991
ATTORNEY/AGENT INFORMATION:
NAME: Stratford, Carol A.
REGISTRATION NUMBER: 34,444
REFERENCE/DOCKET NUMBER: 5865
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 324-0880
TELEPAX: (415) 324-0960
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
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CA
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TYPE:
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94306
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VDENCE ADDRESS:
SEE: Law Offices of Peter Dehlinger
350 Cambridge Avenue, Suite 300
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Y: li
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                                                                                                                                                                                                                                                                  TION NUMBER:
                                                                                                                                                                                                                                                                            RE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                 TYPE: Floppy disk
R: IBM PC compatible
ING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                           READABLE FORM:
TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                JUSTICE, ALAN
SINGH, TEJINDER
SINGH, KISHOR C
WALENTINO, KAREN L
MILJANICH, GEORGE P
INVENTION: METHODS OF PRODUCING ANALGESIA AND
INVENTION: ENHANCING OPIATE ANALGESIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Application US/08742774
824645
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                       amino acid
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                                    acids
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76.0%;
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                                                                                                                                                                    07/814,759
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Pred. No. 6e-07;
Mismatches
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US-08-675-354-12
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-08-675-
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                                                                                                                                    REGISTRATION NUMBER: 34,444
REFERENCE/DOCKET NUMBER: 5865-0009.30
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 324-0880
TELEFAX: (415) 324-0960
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
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ORIGINAL SOURCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/08/049,794

FILING DATE: 1993-APR-15

APPLICATION NUMBER: US 07/814,759

FILING DATE: 30-DEC-1991

ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE MEDIUM TYPE: F)
                                                                                                                                                                                                                                                                                                                                           SOFTWARE: PatentIn Release #1.
CURRENT APPLICATION DATA:
                                                                  HYPOTHETICAL: ORIGINAL SOUR
                                             FEATURE
                                                                                          MOLECULE TYPE:
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OTHER INFORMATION:
                                                                                                 TOPOLOGY: 11
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                                                                                                                                                                                                                                                                                                                                                                 OPERATING SYSTEM:
                                                                                                                                                                                                             NAME: Stratford, Carol A REGISTRATION NUMBER: 34,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 CKGTGKPCSRIAYNCCTGSCRSGKC 25
OTHER INFORMATION: 75-354-12
                                                         INDIVIDUAL
                      LOCATION:
                                                                                                                              LENGTH:
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                                  /KEY:
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                                                                     SOURCE
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MILJANICH, GEORGE P
VVENTION: METHODS OF I
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GOHIL, KISHOR
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IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                                   Modified-site
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                                                         ISOLATE:
                                                                                                        linear
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76.0%;
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           /note=
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                                                          SNX-194,
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Pred.
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                                                           FIGURE
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                                                                                 US-08-965-918
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                                        Best Loc
Matches
                                                            Query Match
                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:

NAME: Mohr, Judy M.

REGISTRATION NUMBER: 38,563
REFERENCE/DOCKET NUMBER: 5865-0009.34
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-324-0880
TELEFAX: 650-324-0960
INFORMATION FOR SEQ ID NO: 12:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL
                                                                                                                                                                                                                    INFORMATION
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CORRESPOND
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                                                                                                                                                                                                                                                                                                    SOFTWARE: FastSEQ for Windows Ver: CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/965,918
FILING DATE: 07-NOV-1997
CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER
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OPERATING
SOFTWARE:
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LOCATION:
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                   CKGT
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ER READABLE FORM:
UM TYPE: Diskette
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; Conservative
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                                        Similarity 76.0
9; Conservative
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891849
TGKPCSRIAYNCCTGSCRSGKC
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Gohil; Kishorchandra
Adriaenssens, Peter I
Kristipati, Ramasharm
                                                                                                                                                                                                25 amino acids
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76.0%;
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METHODS AND FORMULATIONS FOR PREVENTING
PROGRESSION OF NEUROPATHIC PAIN
                                                  80.4%;
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                                                                                                                                     SNX-194,
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Avenue, Suite
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RESULT 9 US-09-138-439-

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Application US/09138439

NO.

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RESULT 10
US-08-613-400A-12
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REFERENCE/DOCKET NUMBER: 5865
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 324-0880
TELEFAX: (415) 324-0960
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
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GENERAL
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GENERAL
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                                              APPLICANT:
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 30-DEC-1991
ATTORNEY/AGENT INFORMATION:
NAME: Stratford, Carol A
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APPLICATION NUMBER: U
FILING DATE: 1993-04-
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                                                                                              APPLICANT:
                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
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ADDRESSEE: 1
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CITY: Pa
STATE: C
COUNTRY:
ZIP: 943
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                                                                                                                                                              No.
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                                                                                                                                           INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                     Similarity 76.0
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                                                                                                                                                              2, Application 6054429
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: JUSTICE, ALL...

: SINGH, TEJINDER

: NALENTINO, KAREN L

INVENTION: METHODS OF PRODUCING ANALGESIA AN

INVENTION: SINGH, TEJINDER

: NALENTINO, KAREN L

INVENTION: METHODS OF PRODUCING ANALGESIA AN

INVENTION: SINGH, TEJINDER

INVENTION: SING
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     INVENTION:
                           INVENTION:
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                                          Pettus,
Luther,
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Floppy disk
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30-DEC-1991
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                   Mark, R.
Robert, R.
IMPROVED EPIDURAL
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     METHOD OF
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S-08-613-400A-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Stratford, Carol A
REGISTRATION NUMBER: 34,444
REFERENCE/DOCKET NUMBER: 5865
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-324-0880
TELEFAX: 650-324-0960
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
                                                                                                                                                                                                            Patent No
GENERAL
                                                                                                                                                                                                                                   Sequence
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Best Local :
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APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
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PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 36
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dehlinger & Associates
STREET: 350 Cambridge Avenue, Suite 250
                                                                                                 NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGINAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE HYPOTHETICAL:
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               COMPUTER
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                          STATE:
COUNTRY
ZIP: 9
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LOCATION:
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    MEDIUM
                                                                                       ADDRES
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                                                                                                                                                                                                NO. 600, C. RAL INFORMATION:
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READABLE F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ING SYSTEM: DOS
RE: FastSEQ for Windows Version
APPLICATION DATA:
94306
READABLE FORM:
TYPE: Floppy disk
                                                                                       SEE:
                                                                                                                                                                                                                                                                                              TGKPCSRIAYNCCTGSCRSGKC
                                                                                                                                                                                                                                                                                                                                           Similarity 76.0
9; Conservative
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                                                                             : SINGH, TEJING: SINGH, TEJING: SINGH, KISHOR C
: GOHIL, KISHOR C
: VALENTINO, KAREN L
: WILJANICH, GEORGE P
INVENTION: METHODS OF PRODUCING ANALGESIA AND
INVENTION: ENHANCING OPIATE ANALGESIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Palo Alto
                                                            Palo Alto
                                                                                                                         INVENTION:
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                                                                        Law Offices of Peter Dehlinger
Cambridge Avenue, Suite 300
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TEJINDER
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76.0%;
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Pred. No. (
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US-09-298-017-12
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REGISTRATION NUMBER: 34,444

REFERENCE/DOCKET NUMBER: 5865-0009.30

TELECOMMUNICATION INFORMATION:

TELEPHONE: (415) 324-0880

TELEFAX: (415) 324-0960

INFORMATION FOR SEQ ID NO: 12:

SEQUENCE CHARACTERISTICS:

LENGTH: 25 amino acids
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US-09-392-979A-12
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Best L
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GENERAL INFORMATION:
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                                                                                                                  COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0,

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/392,979
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: IN
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APPLICANT:
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  PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/049,794
FILING DATE: 1993-04-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Law O
STREET: 350 Camb
CITY: Palo Alto
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                                                                      CLASSIFICATION:
                                                                                                FILING
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12, Application US/09392979A
). 6136786
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19; Conser
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GY: linear
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DATE:
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SINGH, TEJINDER
GOHIL, KISHOR C
VALENTINO, KAREN
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METHODS OF
ENHANCING O
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76.0%;
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                                                                                                                               US/09/392,979A
                                                                                                                                                                                                                                                                                                                                                                                                               Avenue,
                                                                                                                                                                                                                                                                                                                                                                                                                of Peter Dehlinger
venue, Suite 300
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US-09-392-979A
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Best I
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RESULT 13
US-07-789-913-9
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REFERENCE/DOCKET NUMBER: 5865-0009.30
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 324-0880
TELEFAX: (415) 324-0960
FORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
TYPE: amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULF TYPE
                                                                                                                                        COUNTRI.
ZIP: 94306
ZIP: 94306
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Ver
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/789,913
PTITING DATE: 19911112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US 07/814,759 FILING DATE: 30-DEC-1991 ATTORNEY/AGENT INFORMATION: NAME: Stratford, Carol A. REGISTRATION NUMBER: 34,444
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ORIGINAL SO
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APPLICANT
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                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF
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                                                                  APPLICATION NUMBER: US 07/561,766
FILING DATE: 02-AUG-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/440,094
                                                                                                                              CLASSIFICATION: 514
PRIOR APPLICATION DATA:
                                          ATTORNEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
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                                                                                                                                                                                                                                                                                                            CITY:
STATE:
                                                                                                                                                                                                                                                                                                                                                       ADDRESS
                                                                                                                                                                                                                                                                                                                                          STREET
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AL INFORMATION:
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A-12
                                                                                                                                                                                                                                                                                                             Palo Alto
CA
ENCE/DOCKET
             DATE: 22-NOV-1989

Z/AGENT INFORMATION:

Stratford, Carol A

FRATION NUMBER: 34,
                                                                                                                                                                                                                                                                                                                                                                       : Fox, James A.
: Valentino, Karen L.
: Valentino, Karen L.
: Bitner, Robert S.
: Bitner, Robert S.
: Yamashiro, Donald H.
: Yamashiro, Donald H.
: INVENTION: Delayed Treatment Method of Reducing INVENTION: Ischemia-Related Neuronal Damage SEGUENCES: 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Application US/07789913
559095
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1: Law Offices of Peter Dehlinger
350 Cambridge Avenue, Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Miljanich, George P. Bowersox, Stephen S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Modified-site
                                                      MBER: US 07/440,094
22-NOV-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   80.4%;
 ER: 34,444
NUMBER: 5865-0005.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note=
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Pred. No. 6
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                                                                                                                                                                                                              Version #1.25
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RESULT 14
US-07-789-913-12
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INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
TYPE: AMINO ACID
TOPOLOGY: both
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patent No. Double Patent No. D
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                                                                                                                                                                                                                              CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/561,766
FILING DATE: 02-AUG-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/440,094
FILING DATE: 22-NOV-1989
ATTORNEY/AGENT INFORMATION:
NAME: Stratford, Carol A.
REGISTRATION NUMBER: 34,444
REFERENCE/DOCKET NUMBER: 5865-0005.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-789-913-9
                                                                                                                                 TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 324-0880
TELEFAX: (415) 324-0960
INFORMATION FOR SEQ ID NO: 12:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: ITTLE OF INVENTION: NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
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MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

COMPUTER: PC-DOS/MS-DOS
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                                                                                                   SEQUENCE CHARACTERISTICS:
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TOPOLOGY: bc
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Bitner, Robert S.
Yamashiro, Donald H.
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Bowersox, Stephen
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US-08-049-794
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OPERATING
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PAX: (415) 324-0960

ON FOR SEQ ID NO: 9:
E CHARACTERISTICS:
H: 25 amino acids

AMINO ACID
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ATION NUMBER: US/08/049,794
DATE: 19930415
                                                                         ICAL:
                                                                                                                                                                                                                                                                                                READABLE FORM:
TYPE: Floppy disk
ER: IBM PC compatible
ING SYSTEM: PC-DOS/MS-DOS
RE: PatentIn Release #1.0,
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79.7%;
Similarity 76.0%;
9; Conservative
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Similarity 76.0%;
9; Conservative
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ON: 12..13
INFORMATION: /not
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PLICATION DATA:
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KGAKCSRLXYDCCTGSCRSGKC 25
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F: SINGH, TEJINDER
F: GOHIL, KISHOR C
F: VALENTINO, KAREN L
F: MILJANICH, GEORGE P
INVENTION: METHODS OF PRODUCING ANALGESIA AND
INVENTION: ENHANCING OPIATE ANALGESIA
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Pred. No. 7.7e-07;
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 Score 122; DB 1;
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2; Mismatches 4;
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